anticipation

lo. 19 November, 1974

SCIENCE AND TECHNOLOGY FOR HUMAN DEVELOPMENT

The Ambiguous Future and the Christian Hope

REPORT

1974 World Conference in Bucharest, Romania

ese papers are circulated for the information of participants in the ecumenical enquiry on he Future of Man and Society in a World of Science-Based Technology". Comments are welcome.

Church and Society, World Council of Churches, 150 route de Ferney, 1211 Geneva 20, Switzerland

SCIENCE AND TECHNOLOGY FOR HUMAN DEVELOPMENT

The Ambiguous Future and the Christian Hope

BUCHAREST

June 24 – July 2, 1974

Findings of a Conference Concluding the Five-Year WCC Study Programme on the Future of Man and Society in a World of Science-Based Technology.
Organized by the Sub-Unit on Church and Society, with the Cooperation of the Commission on the Churches' Participation in Development (CCPD) and the Secretariat on Urban Industrial Mission (UIM) of the World Council of Churches.

CONTENTS

Pa

NOTE: Setting of the Conference .....

INTRODUCTION: A New Ecumenical Vision of the Future .....

PART ONE: **The Significance for the Future of Pressures of Technology and Population on Environment, and of Natural Limits to Growth** .....

I. Hope for Greater Justice.....

II. Programmes to Deal with the Short-Term Resource Crisis.....
- A. Recommendations on Food .....
- B. Recommendations on Energy.....

III. A New Ethic of Resource Use.....
- A. Energy – Long-Term Prospects .....
- B. The Nuclear Power Option.....
- C. Alternative Energy Technology .....
  - Recommendations .....
- D. Environmental Deterioration.....
  - Pollution.....
  - Recommendations .....
  - The Human Impact on the Climate of the Earth .....
  - Recommendation .....

IV. Military Technology.....

V. A Long-Term Concept of a Sustainable and Just Society.....
- A. Improving the Quality of Life.....
- B. The Sustainable Society.....
- C. The Urgently Needed Transition.....
- D. Recommendations .....

PART TWO: **Self-Reliance and the Technological Options of Developing Countries** .....

I. The Failure of Research and Development Systems in Developing Countries.....

II. The Gap Between "Modern" and "Traditional" Technology .....

III. Building a Technology Appropriate to the Social and Physical Environment.....

IV. The Right Use of Modern Scientific Knowledge.....

V. Recommendations.....

PART THREE: **Quality of Life and the Human Implications of Further Technological Change** 17
I. Measurable Social Indicators of the Quality of Life 17

II. Essential but Immeasurable Indicators 17

III. Technological Threats and Hopes 18
A. Impediments to a Higher Quality of Life 18
B. Alternate Visions and Strategies 18

IV. Recommendations 19

PART FOUR: **Human Settlements as a Challenge to the Churches** 20
I. Human Settlements and World Society 20
II. Christian Responsibility for Human Settlements 20
III. The Role of the Local Congregations 21
IV. The Role of the WCC 21
V. Recommendations 21

PART FIVE: **World Social Justice in a Technological Age** 24
I. Justice and Technology in Christian Perspective 24

II. The Role of the Churches 25
Recommendations 25

III. Technology, Power and Justice: Perspectives of the Developing Countries 25
A. Asia's Need for New Patterns of Production and Consumption 26
B. Technology and Liberation in Africa 26
C. Latin America – The Injustices of Economic and Technological Dependence 27
Visions of Justice 27
Practical Measures Proposed to Achieve this Goal 28
The Role of the Churches 28
D. Recommendations 29

IV. Third World People in Affluent Society 29

V. The Responsibility of Affluent Societies for World Social Justice – Two Views 29
A. Need for Radically New Goals for Overdeveloped Societies 29
B. Facing the Obstacles in Restructuring the Affluent Societies 30

VI. Economic Structures for International Justice 31

Recommendations 32

PART SIX: **The Theological Understanding of Humanity and Nature in a Technological Era** 33
I. The Christian Hope and the Prospects for Humanity 33
A. The Promise 33
B. Impediments to the Promise 33
C. Hope for New Life 33
D. The Strategy of Hope 34

II. The Ecological Crisis and a Theology of Creation 35
A. New Challenges for a Theology of Creation 35
B. The Mystery of the Trinity and the Reality of Creation 35
C. The Human and Non-Human in Creation 35
D. Ethical and Spiritual Consequences 36
E. Recommendations 36

Appendix I: Conference Programme 37

Appendix II: List of Conference Participants 39

Appendix III: WCC Central Committee Action on the Conclusion of the Five-Year Enquiry on the Future of Man and Society in a World of Science-Based Technology 43

SETTING OF THE CONFERENCE

The Conference on "Science and Technology for Human Development" meeting in Bucharest, Romania, June 24 – July 2, 1974, was the last in a series of ecumenical study conferences convened by the World Council of Churches in its five-year study of the Future in a World of Science-Based Technology. The study was launched to evaluate from ecumenical perspective the social and human implications of the modern scientific and technological revolution.

There were 130 participants in the meeting including scientists and technologists representing many different disciplines, as well as social leaders and theologians. They came from 44 countries.

At the invitation of His Beatitude Patriarch Justinian the Conference was held in Bucharest, and met in the Theological Institute of the Romanian Orthodox Church. The participants benefited greatly from the extraordinary generosity and hospitality of this Church and other Romanian Churches, and also from the support of Prof. Dumitru Dogaru, President of the State Department for Religious Affairs. It was the first major World Council meeting to take place in a socialist and predominantly Orthodox setting, and for many participants it was their first encounter with both.

The Conference programme was divided equally into plenary sessions to consider topics of interest to the whole gathering and meetings of four Working Groups on the main themes of the Conference. Selected preparatory papers and plenary presentations have been published in *Anticipation* No. 17 and 18. The programme and list of participants are included in this report as Appendix I and II.

Co-chairmen of the Conference were Prof. S.L. Parmar, University of Allahabad, India, and Prof. L. Charles Birch, University of Sydney, Australia.

A draft report on the findings of the Conference was published in early August and shared with the participants, interested press, and the members of Unit I Committee and Central Committee of the WCC at their meeting in Berlin in August 1974. The action of the Central Committee on the conclusion of the five-year enquiry is included here as Appendix III.

In the light of a large number of oral and written corrections and comments this revised and final report has been prepared.

Introduction
A NEW ECUMENICAL VISION OF THE FUTURE

The findings of the meeting as spelled out in the following pages indicate a turning point in the perception of further social and economic development and of human expectations, arising from a new understanding of the limits, dilemmas and uncertainties of a scientifically and technologically shaped society. Technology had promised increasing material progress, greater control over the vicissitudes of nature and economic security. Today, instead of security and human satisfaction, there is "the sense of an ending", resulting from a new awareness of the finiteness of resources and of the limits of the technological world view. Societies which were organized on the hopes of technological achievement are experiencing great confusion about their aims for the future.

The Bucharest Conference sought to state as clearly as it could some of the practical ways in which, in this new historical situation, Christians must rethink their expectations for themselves and their societies.

Though the Christian Gospel promises abundant life, freedom, the new creation in Christ, those who have heard Christ's blessing on the poor will not measure the richness of life in quantitative terms.

Yet those who confess a belief in Christian freedom have a responsibility to work for the end of all forms of human bondage. Those who love their neighbours will seek to promote justice and a better quality of life for all.

However, quality of life has a subtle meaning, which cannot be rigidly defined or reduced to quantitative terms. No society can guarantee its members a high quality of life in the most profound meaning of the term. It can both oppress people and contribute to their opportunities. So the Church asks of societies in our time that they meet basic human needs: that they provide adequate food, clothing, shelter, and health services. And it also asks that they provide people with certain opportunities and freedoms: to apply their energies to creative activity, not simply to perform drudgery, to play, to celebrate, to contemplate, to adore.

In many countries the quest for quality of life will find its expression in a new search and struggle for national identity and authenticity. In this context true liberation means to strive for social, cultural, economic and political self-reliance as the basic prerequisite of any genuine development.

Sharing Life's Gifts and Burdens – A New "Asceticism"?

From its beginnings, the Christian community expressed its faith in an ethic that emphasized the importance of sharing. People saw God's creation as a home, filled with gifts which make possible the sustenance and enjoyment of life, but gifts that needed to be cultivated and shared. Wealth in the face of poverty – and there was always poverty – meant a moral demand for sharing.

For a short period in recent history some societies cultivated the dream of unlimited wealth, of overcoming poverty, not primarily by sharing the existing wealth but by increasing it so there would be enough for all.

Now we face a sobering return to reality. We begin to perceive that the future will require a husbanding of resources and a reduction of expectations of global economic growth. We do not expect that all humanity can live as the most extravagant have been living, and we no longer believe that the spillover of wealth from the top will mean prosperity for all. There may be a divine irony in the fact that the very technological victories which once supported the vision of affluence, now – by their contributions to increasing consumption of resources, growing population, and pollution – are bringing an end to the dream of a carefree and affluent future. Christians are rediscovering their ancient insight, which they had temporarily forgotten, that justice requires sharing. At the same time, many people have concluded that the search for happiness through extravagant consumption is not only unrealistic but is also ungratifying.

Therefore Christians today may find resources for living in their long tradition of asceticism. An appropriate "asceticism" for our time will not be a punishing of the body for the sake of the soud or worldly denial for the sake of an otherworldly reward. It can become part of the voluntary life-style of committed people. But it is important, also, that it lead to political programmes that allocate the world's resources with concern for the common good. This means redistribution of wealth and opportunity within most societies and among the societies of the world.

The changes ahead will be painful for many. They will require sharing of burdens as well as of opportunities. They will require transfers of goods, status and power. They will be especially hard for some societies that will have to face unwelcome changes in their patterns of life. But Christians believe that God's judgement, though often fearful, is gracious. They may yet see that in our turbulent times God is showing them the impossibility of their past and present ambitions, while offering them new opportunities.

Justice and Interdependence

Salvation in the Christian Scriptures is a promise to the whole creation. But people in past centuries knew only a rather small part of the world. Now communication, shared dangers and shared hopes unite the world. Justice, more obviously than ever before, must be justice for all humanity. And justice, once again, includes nature as well as society.

Justice means awareness of the authentic interdependence of people and of people with their natural environment. Independence, in the sense of liberation from oppression by others, is a requirement of justice. But independence, in the sense of isolation from the human community, is neither possible nor just. We – human persons – need each other within communities. We – human communities – need each other within the community of humanity. We – humanity – need nature within the community of creation. We – the creation – need God, our Creator and re-Creator.

Humanity faces the urgent task of devising social mechanisms and political structures that encourage genuine interdepen-

dence, and which will replace mechanisms and structures that maintain domination and subservience. Contemporary societies, highly organized around intricate technologies, coordinate the activities of immense numbers of people. Vast aggregates of power – economic and political and social – inevitably arise. In such a situation it becomes important to emphasize two complementary themes. **First,** some traditional freedoms, whether of individuals or social classes or nations, must be subordinated to the common good. Freedom to oppress others, freedom to threaten the environment, freedom to act recklessly, become extremely dangerous. But, **second,** freedom of conscience and freedom for creativity become increasingly precious to people who feel themselves reduced to fragments of powerful states or business corporations. The maintenance of some harmony between social responsibility and personal freedom is an issue in all societies.

It becomes increasingly important to distinguish between policies that require centralized decisions, for the sake of the safety and the quality of life of many people, and policies that can be determined locally by smaller communities. It likewise becomes important to distinguish between those areas where individual gain must yield to social need and those where personal conscience is inviolable and personal spontaneity desirable. New institutional devices are required to enable people to participate in the decisions that affect them.

Part One
THE SIGNIFICANCE FOR THE FUTURE OF PRESSURES OF TECHNOLOGY AND POPULATION ON ENVIRONMENT, AND OF NATURAL LIMITS TO GROWTH

I. HOPE FOR GREATER JUSTICE

In a world of great injustice, it is those who suffer most who should have the greatest stake in planning and decision making. And they, better than anyone else, can present their point of view. Nevertheless, it must be recognized that these are the very people who have least to say when decisions regarding orientations of the economic and social process – decisions which affect them directly – are being taken. Considerable emphasis is now placed on people's participation in the development process. This is best achieved if people have a "vested interest" in growth. Incentives will have to take the form of substantial increases in available goods and services which will lead to progressive reduction and eventual elimination of malnutrition, disease, illiteracy, squalor, unemployment and inequalities.

We cannot effect immediately all imaginable changes, but the urgency of bringing about those which are essential must be stressed. In this connection, it is important to underline the theological significance of hope, understood as that quality which enables those who do not conform to the present state of affairs to strive – sometimes painfully ("groaning like a woman in travail", as St. Paul said) – towards a world of greater justice – a world in which the necessary changes have been accomplished. But any realistic struggle for such a just world requires not only a critique of the conditions which are to be surmounted, but also the planning, the programming, of the new. This is what is meant by the exercise of the utopian function: it is not so much to dream about the unreal and the impossible, but rather to press ahead with making possible that which is not yet, but which must be made so. Hope and utopia go hand in hand: the former as the manifestation of the individual will which reaches out toward a future which has already been proclaimed; the latter as an expression of the collective power for change. While the former strengthens the latter, it is difficult for individual volition to maintain itself in the absence of some collective manifestation.

II. PROGRAMMES TO DEAL WITH THE SHORT-TERM RESOURCE CRISIS

The number of human beings on our earth will double in the next 35 years, that is, in the lifetime of most of us living today. In a future full of uncertainty, this is one of the most certain things we know. There is, however, a great likelihood that the constraints of food and water supplies will forcefully enter the human scene much earlier, creating major discontinuities and greatly disrupting any such long range demographic projections. The overwhelming issue is how to provide adequately for those now living on earth and the added billion anticipated within ten years.

To feed, house, educate, and provide water and other necessities of life for all these inhabitants, is the task facing the world community today. It is a task of a completely different order of magnitude from any that most of us are used to picturing and thinking about; its massive dimensions are far beyond our imagination and our acceptance. Surveys show that water supplies are inadequate both in quality and quantity for a world population of more than three billion.

But it is not just a question of providing appropriate living conditions for the new arrivals. We start far below that base line. The majority of the present inhabitants of our world are hungry, ill-housed and poor. And it is into the areas where they live that the largest number of new inhabitants will be born.

There is a growing international consensus that fertility may not decline to any significant degree unless family planning is accompanied by major efforts to improve the social setting. Family planning is not a substitute for, but a vital part of, general development efforts. Thus family planning programmes need to be integrated into overall socio-economic development strategies.

The nature and magnitude of humanity's dilemma has not yet been grasped. Financial help to needy countries in the order of $10 to 15 billion has been cited as a necessary minimum. Yet to assume that such a sum can be secured is said to be unrealistic, although the rich world alone squanders more than $290 billion per year on armaments. Furthermore, it is allowing itself to double this figure every twelfth year. It stockpiles bombs and missiles in quantities far exceeding the total explosive power used in all wars ever waged. But the urgent ever-present need of stockpiling food and feed to offset the inevitable calamities of nature has not yet been faced. The current drought crisis has struck a world which has exhausted its reserves.

World resources are mobilized almost exclusively for the benefit of the well-to-do. What amounts to a protein empire has been built on prevailing trade patterns, with Europe and Japan as dominant recipients. Europe is purchasing annually more feed protein in the form of grain, oilseeds, and oilseed meal, than either Africa or India consumes as human food in one year. The U.S.S.R. was admitted as a member of this luxury enclave in 1973, initiating the biggest transfer of food and feed ever to take place in history. This opened the floodgates for rising prices, which placed indispensable reserves of food beyond the reach of the hungry less-rich world. Despite some grain deliveries to needy countries, the protein exchange between the satisfied and the hungry world is in negative balance, both in quantity and quality. The U.K., Italy, and the Federal Republic of Germany have each received far more grain than India. India has regained her position as a top-

ranking exporter of peanut protein, delivering more of this commodity to the world household and its well-fed peoples than does the whole African continent. There is something radically wrong about economic systems that result in protein being exported from where it is most needed. No less than half the ocean catch moves as fishmeal to the feeding troughs of the satisfied world, and this at a time when we are allegedly engaged in an intense mobilization of the oceans to feed the hungry world. In both agriculture and fisheries, the rich world has created such capital-intensive procedures that their products are out of reach of a world where already more than half the inhabitants do not earn sufficient to buy adequate food.

Redirecting the flow of aquatic protein and of oilseeds from the livestock of the well-fed to the hundreds of millions of malnourished and starving people is not only a prime challenge facing the world but would constitute a major contribution to world social justice. This would not only remove all overt protein deficiency but provide essential protein supplementation to more than half a billion people.

If we recognize these realities, we must conclude that nothing short of a **world emergency food programme** is urgently needed now. This would be over and above efforts already being made to stimulate and assist meeting the longer term goals of economic growth, self-reliance, and distributive justice in the developing countries, to assist them in meeting their longer term goals and present plans to protect the integrity of the environment. The emergency programme would not replace such undertakings but would complement them, and even ensure that the longer term work of development has some chance of success.

We propose that the first priority for this programme be the world food issue; and the second the energy crisis.

A. RECOMMENDATIONS ON FOOD*

- *Recognizing that the present world is to an alarming degree unaware of the fact that its present policy on population, food, water and several other resources is taking it on a collision course,* **we recommend** *that the WCC make a special effort to convey to news media, in particular radio and television, information on the nature and gravity of the global food dilemma, as well as on the huge disparities in the present world.*

- **We recommend** *that the WCC*
  - *(i) strongly support the proposal that an international food reserve, to be controlled by an international agency, be built up in suitable regions. The purpose of this food reserve should be to act as a buffer against food shortages during droughts and other emergencies;*
  - *(ii) urge that a programme for the conservation and development of water resources should be regarded as an urgent priority for developing countries;*
  - *(iii) investigate the relationship between oil prices and the availability of fertilizers and the possibility of reducing their use in rich communities for luxury purposes;*
  - *(iv) propose that one possible means of funding food reserves could be through channelling the huge profits of oil producing countries that are at present mostly invested in developed countries.*

* These recommendations were originally drafted in view of a WCC contribution to the U.N. World Food Conference, Rome, November 1974

- **We recommend** *that the WCC call upon its member churches to reduce food waste and unnecessarily high consumption of food in developed areas. In many countries people should be encouraged to reduce their consumption of meat and to use vegetable proteins instead, so making available more grain where it is most needed. At the same time as meat consumption falls, governments should be encouraged to provide alternative sources of productive efforts for meat producers and marketers.*

B. RECOMMENDATIONS ON ENERGY

- *In view of the fact that in the immediate future oil will remain the main source of energy for both developed and developing countries, and that at present almost intolerable burdens are placed upon developing countries because of high prices,* **we recommend** *that:*
  - *(a) The WCC support proposals that the oil-producing countries should in the long run themselves market the oil they produce as soon as this is practicable, and at a price the poor nations can afford;*
  - *(b) the WCC encourage its member churches in those countries where multi-national corporations are centered to do their utmost to control profits of these corporations;*
  - *(c) the WCC support any efforts to break the monopoly of oil transportation at present undertaken mostly by multi-national corporations;*
  - *(d) the WCC support the proposed establishment of a bank financed by OPEC (Organization of Petroleum Exporting Countries) countries. This bank would grant loans at very low interest rates to the developing countries in order to enhance their economic development and help them overcome the effects of rising oil prices;*
  - *(e) the oil producing countries be persuaded to open their markets more liberally, and on terms advantageous to the developing countries, to manufactured goods from the latter countries;*
  - *(f) that OPEC countries provide special assistance by financing increased production of such manufactured goods in a manner that does not involve the developing countries in heavy debts;*
  - *(g) the churches urge people in rural areas particularly to refrain as much as possible from cutting down trees and using kerosene for domestic fuel; plant waste can often be used for this purpose.*

III. A NEW ETHIC OF RESOURCE USE

A. Energy – Long-Term Prospects

The significance of energy availability is obscured in the Gross National Product approach to the assessment of economic growth. Professor K. E. Boulding has written about the role of the discovery of new sources of materials and energy as follows: "Modern society, which grew out of this great expertise in knowledge, depends for its high productivity not only on the knowledge itself but also on the great increase in energy inputs which that knowledge permitted. It is not surprising that there is a very high correlation between the per capita energy input of society and its per capita gross product. Our present technology, therefore, can-

not be sustained for very long, simply because the energy resources which sustain it are exhaustible."

Few people will argue against this definition of the link between energy and the rise of modern society. The problem of sustaining an increasing world population is to a large extent identical with that of assuring a steady increase in the availability of energy at the lowest possible price. The fourfold increase of oil prices already has had serious adverse effects in industrialized countries, but this rise is a far greater strain for developing countries. This is because the former have the freedom to adjust their investment pattern and (to a certain extent) to control the level of individual consumption, whereas in the latter, with their subsistence economies, another lifeline to food and agricultural production is thereby threatened. To put it in the words of the Washington Oil Conference of February 1974: "It was acknowledged that even the best cooperative efforts between nations will offset only a fraction of the serious damage which has been done to many countries by the abrupt and spectacular increase in oil costs. Action to resolve the plight of the developing countries where bigger oil import bills threaten to wipe out most of the development aid must clearly be given an immediate high priority."

It is doubtful that this has been done. Furthermore, while estimates of the future availability of oil at the present rate of production remain uncertain, it is accepted that oil is a readily exhaustible energy source. It will only help to bridge the gap to more sensible and hopefully to more accessible energy sources. Our problem is to make it and other forms of fuel last until such sources are available.

Only the availability of new sources will lead on to a sustainable state of energy production. In the immediate and medium term, these should conform to the following criteria:

(a) the energy should be easily accessible so as not to constitute an intrinsic or natural monopoly;

(b) it should be capable of sustaining the supply of energy for a wide range of unit sizes, i.e. from a large urban network down to the single generator for village-scale production;

(c) the energy produced must be easy to distribute, e.g. electricity, although its distribution is more expensive than that of most other means.

3. The Nuclear Power Option

It remains an open question whether the widespread proliferation of nuclear power plants is a desirable choice for society to make. Yet throughout the Western world, there are already clear signs of a growing dependence on this form of energy production. Since national energy policies are prepared in isolation, it is doubtful that the collective international impact of these rapidly expanding construction programmes has been systematically assessed. Indeed, during the Stockholm Conference, the Director-General of the International Atomic Energy Agency indicated that he expected that by the year 2000 commissioning of a 1000 MW(e) nuclear power plant somewhere in the world would be an almost daily event. In some countries, nuclear power already provides 10% of the electricity requirement.

But questions are being raised about the availability of reasonably priced uranium. By about 1985, cumulative requirements could exceed resources recoverable at $20 per kg. and should annual requirements rise from 50,000 to 100,000 tons after 1985, it will be necessary to discover and develop an additional one million tons of uranium to build up an eight to ten years forward reserve. The problem of depletion of uranium resources could be eliminated by turning from thermal reactors to breeder reactors for power generation.

However, the technology of breeder reactors is by no means proved. There are still formidable difficulties to be overcome, including not only the unsolved waste disposal problem but also the production of an accident-proof design. Even if this new technology can survive the rigorous assessment that will be essential prior to the widespread introduction of commercial breeder-based electrical power generation, there is no prospect of these reactors taking over a significant fraction of the energy burden before the mid-1990s.

The prospect of the use of fusion power is even further distant, and the deuterium-tritium fusion process, which is probably the easiest, raises problems in the very long term regarding supplies of tritium that is produced from lithium. On the other hand, the deuterium-deuterium reaction, if it could be harnessed, would give almost unlimited energy although not necessarily cheaply.

A realistic appraisal of the implications of the nuclear process would seem to indicate unprecedented demands on capital, mineral resources and industrial capabilities, increasingly centralized systems of production, and a potentially large-scale environmental impact. The nuclear option entails a risk whose magnitude is a matter of debate. Widely divergent views of this risk are held in the scientific community. Many people find the risks unacceptable especially when there seems to be a chance that oil and coal may be so managed as to fill the gap that exists until alternative technology produces a non-polluting and safe source of energy.

A brief table of arguments for and against is given below:

For	Against
- A source of energy particularly when other sources are scarce.	- Radioactive wastes constitute a hazard for present and future generations.
- Saves fossil fuels for other purposes in chemical industries.	- Possibility of accidents that could spread radioactive materials.
- Causes less air pollution.	- Vulnerability to sabotage.
	- Centralization of power source.
	- Increases the technological gap between poor and rich countries.
	- Possibility of increasing availability of material for nuclear weapons.

C. Alternative Energy Technology

Following this brief appraisal of the nuclear power option – which in any case can be taken up by only very few countries in the developing world – there is certain to be an increasing demand for more flexible and more diverse systems of energy supply. These will have to be based on "income" sources of energy, notably wind, wave and solar inputs, rather than on the more traditional "capital" sources of fossil fuels, if the long-term problem of production is to be solved. For the most part, these technologies

will conform to the criteria of small scale, greater accessibility and low environmental impact.

Solar energy collectors do not benefit by scale increase; small domestic heating units are already in use and solar distillation units are economic in sunny areas with high fuel costs. Solar collection linked to power production through photo voltaic cells is much less promising than direct heating applications with a current conversion of solar to electric power of less than 5%, although improved but very expensive cells might five conversion efficiencies as high as 10%.

There are real possibilities of supplementing electricity supplies by the use of equilibrium sources, viz: geothermal, tidal and wind power. Of course, these sources all rely for their effectiveness on particular geographical conditions, but they have not been properly evaluated and are consequently under-utilized.

Geothermal energy associated with volcanic activity is stored in the earth at depths of up to 1-3 km. While this form of geothermal energy has been technically available for the past 70 years in many locations, the total quantity is small and consequently only of local interest. This must still be considered as the consumption of capital in the form of hot water and dry steam rather than as energy income. To gain access to the energy of the earth's interior it will be necessary to drill two holes down to 5-10 km, and then to circulate water through these holes. In addition, it will be necessary to fracture the rocks at this depth in order to obtain good thermal contact over a large surface area. According to recent theoretical studies, the utilization of geothermal energy from hot dry rock could prove to be technologically feasible. Drilling technology at depths of 6-8 km is almost routine and the cracking of deep rocks is an established part of oil field practice. The ultimate potential of this energy source remains uncertain although it could have a profound effect on world energy supplies.

Relatively minor sources of free energy, such as windmills for local power production, have been in use for centuries and must continue to be developed despite the minimal impact on the aggregate energy demand.

Electricity generation based on fossil fuel combustion or nuclear power systems will continue to be a primary feature of most economies. While advances in the efficiency of design and construction have been made over several decades, a plateau of development has been reached where conversion efficiencies are unlikely to exceed 40% with present materials and techniques. "Wasted" heat represents 60% of the input energy and is usually squandered with subsequent thermal water and air pollution problems. Major technical developments aimed at using this waste heat for district heating, desalination, agriculture, fish farming, and so on, need to be implemented. In particular, an increased flexibility of approach by electric utilities is urgently needed; this is an international problem but is frequently not appreciated as such.

RECOMMENDATIONS

- *An* **International Resource Bank** *should be established with special drawing rights for countries in the developing world. In the first instance, this should anticipate increasing demand for energy on the world scale by the provision of buffer stocks of crude oil for the purpose of obtaining a fair distribution of scarce goods.*
- *The WCC, through its member churches, should encourage*
  - *(i) individuals to reduce their consumption of energy and adapt to the new requirements of conservation of energy;*
  - *(ii) national governments to develop alternative, non-polluting, sources of energy to oil such as solar energy, geothermic energy, winds and tides;*
  - *(iii) national governments to discuss publicly through independent action and study groups the problems of nuclear energy programmes.*
- *The WCC should initiate a study of the major moral, economic, social and scientific implications of the extension of atomic energy plants in the world.*

D. Environmental Deterioration

Pollution

Pollution of the air, water and soil of the planet is increasing despite its strong condemnation by public opinion in most countries. Insofar as it is possible to make an overall estimate of global pollution, some experts consider that it is increasing at a rate of 5% per annum, i.e. doubling every fourteen years. If this is correct, and if this rate continues, then the ecosystems of the world will have been stressed to half their limit only fourteen years before they collapse.

Pollution control is a very partial answer to the problem of global pollution. It is widely accepted as a complete answer because its application involves no change in values, or in the basic social, political and economic structure of communities. It can be accepted as a remedy without any major interference with rates of production and consumption of consumable goods.

So-called pollution control is an inadequate answer to the problems of global pollution, for three reasons:

1. Most pollution control involves a shifting of the impact of pollution from one part of the globe to another. For example the building of higher chimney stacks in Great Britain results in more acid rains in Scandinavian countries; the conversion from buses to trams and trains removes pollution from the streets to the power producing plants that drive the trams and trains.
2. Pollution control is not in general keeping pace with industrial expansion. I the developed countries, industry grows a a rate of 7% per year, i.e. it doubles every ten years. If pollution were successfully cut back to 50% of the average this year, current rates of growth would restore the original level of pollution within four to eight years.
3. To recognize pollution and attempt to control it by conventional methods is to see only the top of the iceberg.
   It is only to treat symptoms and to ignore causes. The huge unseen part of the iceberg is the social, political and economic roots of the problem.

Any radical solution to the problems of environmental deterioration must involve a recognition of the causes, and an attempt to deal with them. The basic cause is economic growth which places the emphasis on consumerism instead of on a balance between production of consumable goods and production of services such as public transport, health care, education facilities and the arts. This kind of wasteful and polluting industrial development characteristic of the developed countries should not be copied b

developing countries. Manufacturing corporations should be prevented from installing plants in developing countries that do not conform to pollution control requirements of the countries of origin. In any case the developing countries require another sort of development which gives priority to the needs of the large under-privileged groups for drinking water, sewage systems, food, clothing, housing, health and education. Only when this type is encouraged will some measure of social justice be brought to these communities.

RECOMMENDATIONS

- *We urge that the WCC and its member churches seek through their educational programmes to make more widely known the causes of environmental deterioration and the basic change in human values needed if we are to preserve the environment of the earth.*
- *We recommend that the WCC urge churches and governments:*
  - *to encourage new methods of production which give priority to the elimination of noise, pollution, and waste, and which use recycling.*
  - *to encourage the provision of educational information about ecology, conservation, and resource management in primary and secondary school curricula.*

The Human Impact on the Climate of the Earth

Amongst the by-products of spreading industrialization and agricultural activity are heat, gases such as carbon-dioxide and pollutant particulate matter, all of which affect the atmosphere. It is likely that each has an effect on climate and that within the next fifty to hundred years these effects will become evident and possibly prove disastrous in their consequences. It is not possible at this stage to attribute changing climate in different parts of the world directly to human activity. This is because the climate of the earth is not, and probably never has been, stable. We are, for example, at present living in an ice-age within which the continental ice-sheets have waxed and waned in polar and middle latitudes and large fluctuations of rainfall have occurred in the tropics and sub-tropics. The "warmer" or inter-glacial climates of the present ice-age have been 8 to 12,000 years in length, while the "colder" or glacial climates have been about ten times as long. Our present "warmer" period has persisted for about 10,000 years. When and how the next glacial period will begin is not known. Our first evidence might be the failure of snow to melt one summer. It is sobering to realize that the climate of the last twenty years has been unlike that of the previous several decades. Some of the changes are that the northern regions of the northern hemisphere have been cooling down and the northern fringes of the northern hemisphere monsoon regions have been getting drier. Indeed, the period 1930 to 1960 may have had the most "abnormal" climate of the past 500 years. But while climate is changing anyway due to causes unknown, and it is difficult to determine the contribution made by human activity until that becomes quite large, the human influence on climate could be very great.

Major causes for concern at present are the increasing carbondioxide content of the atmosphere produced by burning fossil fuel and the heat produced by industrial and urban activity.

In many developed countries about 10,000 watts of energy is used per person. Someone living in a non-industrialized society, by comparison uses only a few hundred watts. With present population and industrial growth rates, it is very likely that within the next fifty to hundred years the heat from these regions of high energy use per capita will cause changes in global climate that could have most disturbing, if not disastrous, effects on agriculture and other human activities far distant from the source. The matter is of such consequence that the development of huge urban-industrial complexes in the future should be a matter for global consideration and not simply a national issue.

Since it is highly likely that the decisions which are made in the next fifty to hundred years concerning large-scale changes in land use and industrialization and their likely effect on climate could be great, this is one more factor that must be regarded as a deleterious consequence of growth in population and industrialization that could greatly reduce the quality of life on earth.

The extent of large-scale further industrialization should be regarded as a global issue. Furthermore, the likelihood that human activity will alter climate makes the necessity for larger food reserves than held at present even more imperative. Food reserves are also required as a buffer because of large natural climatic variability.

RECOMMENDATION

- *We recommend that the WCC in its further deliberations of industrialization take account of the possible effects of human activity on climate, and explore the ethical issues involved, especially the just distribution of technological and industrial productive capacity. Because climate is a global resource determined in large part by processes in the atmosphere and the oceans (which recognize no national boundaries) and because activities may soon reach the point of producing climate changes (inadvertently, and perhaps at locations far removed from the source of the disturbance), the* **churches** *should urge governments to present for adoption by the United Nations' General Assembly a resolution declaring the weather and climate system to be a global resource for the benefit of all humanity and establishing an international advisory mechanism to consider weather and climate modification problems of potential international concern before they reach critical levels.*

IV. MILITARY TECHNOLOGY

Science-based technology has accelerated the arms "race" in industrialized countries, and the arms "walk" in developing countries. Super powers may reach an agreement on the limitation of the production of strategic nuclear weapons, but there is no constraint on the production and distribution of all other weapons of mass destruction. The rearmament of the nation states with sophisticated weaponry in preparation for world-wide or regionally limited wars poses a serious threat to the survival of the entire human race.

The export of weapons of mass destruction has become a normal part of the trade between industrialized nations themselves, and between industrialized and developing nations. The military industry is growing rapidly and becoming integrated into the economies of industrialized nations, even those with a long history of neutrality.

The post-war period has seen revolutions in military technology almost every five years. Sophisticated weaponry for more effective destruction of human life is produced every year, designed by scientists and technologists. It is estimated that industrialized countries are now spending about $300 billion every year on the military establishment, excluding millions of dollars going into military research.

The Christian community has a monumental responsibility to help challenge the expansion of the military industry, to work for general and complete disarmament, and to direct these financial resources into improving the social and material conditions of humanity.

- **We recommend** *that the WCC urge the U.N. Disarmament Conference to seek to channel each year a certain amount of resources now used for military purposes into the area of world development, starting with food stores and storage facilities.*

V. A LONG-TERM CONCEPT OF A SUSTAINABLE AND JUST SOCIETY

A. Improving the Quality of Life

The purpose of thinking about humanity's future in long range terms is to achieve a higher quality of life than can be attained through a succession of short-term policies. Consideration of the swelling material activity on our fragile, finite planet leads to the conclusion that a point is reached when the benefits of more material production and the material demands of an increasing number of people no longer outweigh the negative effects of this growth on the non-material dimensions of the quality of life. Since many of the negative effects appear only after a lengthy delay, judgement as to the point at which further growth reduces the quality of life depends on the planning horizon employed. Feeling a responsibility at least for our grandchildren, and sensing an incapacity of the physical environment to support for long a load significantly higher than today's, we believe that the rich segments of the world have now reached the critical point where material expansion will reduce the quality of life for some people at some time within the period of concern to us. The remaining, poorer, members of humanity are at a stage where the current benefits of material expansion, except in terms of population, are far larger than the probable costs in terms of reduced quality of life now or in the relevant future. Thus today the world-wide quality of life will be increased by material growth among the poor and by stabilization and possibly contraction among the rich.

B. The Sustainable Society

Once the material conditions of today's poor have been improved, the crucial objective will become the avoidance of forced regression (e.g. through the collapse of a highly stressed agricultural system) to a less desirable state. The goal must be a robust, sustainable society, where each individual can feel secure that his/her quality of life will be maintained or improved. We can already delineate some necessary characteristics of this enduring society. **First,** social stability cannot be obtained without an equitable distribution of what is in scarce supply or without common opportunity to participate in social decisions. **Second,** a robust global society will not be sustainable unless the need for food is at any time well below the global capacity to supply it, and unless the emissions of pollutants are well below the capacity of the ecosystem to absorb them. **Third,** the new social organization will be sustainable only as long as the rate of use of non-renewable resources does not outrun the increase in resources made available through technological innovation. **Finally,** a sustainable society requires a level of human activity which is not adversely influenced by the never ending, large and frequent natural variation in global climate.

In essence, the sustainable society will be one with a stable population and with a fixed material wealth per person, a society actively pursuing quality of life in basically non-material dimensions such as leisure, service, arts, education and sport. In the sustainable state, problems will appear at a more manageable rate than today. People will be able to afford the luxury of delaying the use of new technology to increase human options (e.g. through an expansion of the global productivity or improved capacity to live a better life within existing limits) only after the unavoidable side effects are unearthed and publicized and after decision to implement is agreed upon in spite of the unintentional effects of the new technology. More concretely, we foresee a world where (1) the security of the individual, (2) the redistribution of material wealth, and (3) the implementation of a maximum consumption level are all effected by a transnational social security system dividing the responsibility for the fate of the individual among all people. In order to preserve valuable cultural diversity, responsibility for various social activities will be internationalized, regionalized, or nationalized only to the extent necessary for sustainability.

C. The Urgently Needed Transition

The tremendous changes in attitudes towards the national welfare state experienced during the last generation, make us hopeful that a similar acceptance of a sustainable global welfare society can be effected over the next generation, particularly since the need is so much stronger. There is little time for hesitation. The human impact on our finite planet is growing every day and will continue to do so for decades even after a decision is taken to limit this impact, due to the sluggish momentum in our social institutions, our population numbers, and the accumulated impact on our bodies of years of consumption of chemical compounds with obscure effects. There is a growing understanding of the need to plan in terms, not of today's population, but of the population we will unavoidably have thirty years from now. Similarly, it is necessary to estimate, not the current levels of pollution and political coercion but the possible future levels. To avoid catastrophe in an expanding system, efforts to control the growing impact must be begun before the **anticipated** levels approach the unacceptable. Normally this implies action at a time when the present situation is still acceptable, often even desirable. Doubts already exist in many quarters about the globe's capacity to sustain the anticipated population of the earth, and this doubt will become certainty if there is a delay of a wholehearted initiation of the transition into a sustainable society, beginning with reducing consumption and limiting material waste among the rich, and by defusing the social explosiveness caused by inequity and poverty. Even at the risk of being unable to complete the transition to a sustainable society, we must have the faith to take the first step, and to believe that human ingenuity can overcome the obstacles generated by the further material expansion which will inevitably occur during the interim period.

D. RECOMMENDATIONS

- *We urge the WCC to launch a study and educational campaign disseminating information about the desirability and possible means of organizing a global ecologically balanced society and support efforts towards further elucidation of such a new social concept;*

- *the WCC promote and support activities constituting the necessary elements in a successful transition to a sustainable and just society, including*
  - *(a) efforts to reduce the conspicuous consumption of the rich nations,*
  - *(b) attempts to maintain employment and work satisfaction, and to heighten productivity through less extreme centralization and reduced monotony in work,*
  - *(c) projects for recycling, re-use, more durable construction and increased repairability of material goods,*
  - *(d) campaigns to stop unconscious squandering of natural resources essential to sustain future populations, notably top soil and ground water.*

- *The WCC sponsor a study by its Sub-Unit on Church and Society on the sustainable and just society, particularly in regard to policies for amelioration of adverse effects of the following issues on social justice, nationally and internationally.*
  - *(a) The impact on the less industrialized nations of a stabilization of the material activity of the industrialized world.*
  - *(b) The effects on employment of stabilization of material production, and of the likely shift to leisure and service production.*
  - *(c) Alternative development strategies for less industrialized countries, compatible with the ideal of a sustainable state.*
  - *(d) Patterns of optimum international division of labour and localization of production, resource consumption, and pollution.*
  - *(e) The establishment of a global progressive income tax levied and re-allocated by a transnational body to form the basis for a world that insures the security of the individual.*
  - *(f) Whether foreign capital and expertise, inasmuch as it is already present, can be utilized in a constructive way without the traditional elements of exploitation.*
  - *(g) The bringing of defence, pollution control and resource rationing under control of a transnational body.*

Part Two
SELF-RELIANCE AND THE TECHNOLOGICAL OPTIONS OF DEVELOPING COUNTRIES

Self-reliance requires that people draw upon human and material resources within their own regions to satisfy their needs. It implies the full participation of the people, using their own technology and continuously improving on it. It leads to an increasing awareness of identity.

Self-reliance can be considered as the one successful way to the permanent development of a society. It should not in any way be identified with isolationism. An exchange of ideas and goods can contribute considerably to the welfare of all people and should be encouraged. Nor should self-reliance diminish the moral duty of individuals, groups or nations to help their fellow human beings needs exist. Moreover, the utmost effort of every member of humanity will be needed if the impending catastrophes of hunger and poverty are to be averted.

I. THE FAILURE OF RESEARCH AND DEVELOPMENT SYSTEMS IN DEVELOPING COUNTRIES

The scientific and technological systems of most developing countries have proved incapable up to now of generating any significant number of technological solutions for the most pressing problems of their countries. They have scarcely been able even to introduce the modifications necessary to adapt a finished product or a process to local raw materials, or to make better use of the particular combination of factors of production of the country involved. Their contribution to the study and solution of the basic problems of the submerged parts of those societies has been negligible.

The causes of these failures of the Research and Development systems of the developing countries are obviously very complex; and include more socio-economic and political factors than specifically technological problems. The most important factor is that these R and D systems have evolved as appendices of the so-called modern sectors of those societies, which have the same set of values, the same type of education, and the same patterns of consumption as the middle classes of the developed countries. Since about 98% of the research capacity of the world is concentrated in the developed countries it is obvious that the overwhelming majority of the technological solutions of the modern sector come from their R and D systems. Moreover, as the developed societies and the rich sector of the developing countries continue to consume more and more sophisticated goods, the R and D systems of the developing countries are confronted with a technology that changes so rapidly that it is very difficult for them to maintain up-to-date information, and totally impossible for them to influence its direction. In relation to the needs of the traditional sectors of the poor countries, the actions of the R and D systems have, for reasons that will be explained later, been only marginal, and without any significant effect on the improvement of living conditions.

II. THE GAP BETWEEN "MODERN" AND "TRADITIONAL" TECHNOLOGY

If we are to adapt the R and D system of the developing countries to the real needs of their societies, we have to start by accepting some fundamental facts.

- Most developing countries are dual societies, composed of a modern and a traditional sector. The former comprises between 10 and 30% of the population; the average per capita income is more than ten times higher than that of the traditional sector, and the cultural habits and patterns of consumption are those of the middle and upper classes of the advanced countries. The traditional sector comprises in most countries the vast majority of the population; it consists in great part of a subsistence economy with its cultural patterns. In the last decade mass media communication has started to change its cultural habits, but without improving its material situation. The relationship of the traditional sector with the modern sector is one of dependency, which closely resembles the relationship between developed and developing countries.
- Technology can be divided roughly into two types: modern or scientific technology, and traditional technology based on empirical knowledge. Half of humanity and the great majority of the population of developing countries use traditional technology to solve most of the problems of the subsistence economy in which they live. From the point of view of their structural connection with society, the two types of technology present radical differences. Scientific technology is generated in a clearly differentiated institutional framework that comprises what we call the R and D system of a country. Traditional technology on the other hand, is in some way generated and dispersed in the whole community.
- How can the gap between the modern and traditional sectors in developing countries be closed, and what is the role of science and technology in this process? The implicit assumption in the developed countries, and in the dominant classes of the developing countries, has been that the mere expansion of the modern sector will finally result in the transformation and absorption of the traditional sector. However, for material and ethical reasons given in other sections of this report (see Part 5) this hypothesis is untenable. As history has repeatedly proved, the changes in the relations of power inside a society are in themselves not enough to ensure the automatic adaptation of the superstructural elements to the new situation. This is particularly important in the case of the R and D system, because a social change of the magnitude we are envisaging requires a tremendous amount of scientific and technological knowledge. A new path to development has to be found that is more respectful of the social organization, values and creative actions of traditional societies and that assists them on programmes of appropriate technology, social organization, economic and political power

able to survive the devastating trends of urban industrial society and thus enable them to witness to alternative ways of life in the modern world.

- Grave inadequacies in the ability of existing international and bilateral technical assistance agencies have demonstrated their inability to help in solving specific technological problems in developing countries, particularly in establishing pioneering exploratory and programme design work on a smaller scale than that needed for large industries. This is because these agencies are set up basically to deal with large scale programmes. For example, in one rural development programme there was a desire to recycle the waste from a poultry processing plant, in order both to extract edible protein and to control pollution. Expertise to do this could be secured only through commercial companies in developed countries. They made recommendations that were no doubt suitable for their own countries, but not for the developing country that requested the assistance. The problem remains unsolved. Existing small agencies for "appropriate technology" cannot be expected to add to their already mounting work load.

III. BUILDING A TECHNOLOGY APPROPRIATE TO THE SOCIAL AND PHYSICAL ENVIRONMENT

In order to reorient the activity of the R and D systems of the developing countries, it is necessary to understand how technology is regenerated by a society. The determination of what is an adequate technology for any society must take into account many variables, only a few of which are strictly technological. Most of them belong to the fields of economics, sociology, and social psychology, and form what might be called a set of paradigms, which constitute the frame of reference of the R and D system. They express the basic values and goals of a given society. Some which are typical of advanced capitalist countries are as follows: since labour is the scarce factor of production the more capital-intensive technology is desirable; consumption is stimulated by the production of as many varieties of goods as possible to satisfy the same needs; the dynamism of the economy depends in great measure upon a rapid circulation of goods, so a relatively fast rate of obsolescence is desirable. Such assumptions, which express some of the most basic characteristics of these societies, are seldom stated explicitly, as they have become internalized by every part of the R and D systems.

A new set of assumptions has to be formulated as a frame of reference for the new technologies required by the developing countries. The most important for the reorientation of scientific and technological research premises are the following:

- The main objective of development, at least in the transitional stage, should be the satisfaction of those basic needs such as food, shelter, health and education essential for any human being to enable everyone to participate more fully in the life of society.
- The development of every country or region should be based, as far as possible, on its own resources – natural as well as human.
- The new technologies should not be socially disruptive, but should allow a smooth transition from traditional societies to new forms of social organization which preserve the best cultural elements of the old.
- The rational management of the physical environment should be a basic guideline of economic development. In other words, it is essential to build a society which is intrinsically compatible with its environment.
- The two fundamental goals of the new form of development should be to diminish and eventually to eliminate inequality, and to ensure full participation of all members of society in social decisions.

The building up of a set of comprehensive valid assumptions based on those premises will constitute a dialectical process. A few initial assumptions will provide the framework for starting to define technologies, but the experiences gained in their building and application will in turn act on the assumptions to modify, enlarge, or complete them.

IV. THE RIGHT USE OF MODERN SCIENTIFIC KNOWLEDGE

According to this reasoning, it is clear that the developing countries have to start from a situation that has some similarities with that facing Western European countries at the beginning of the Industrial Revolution. They had to start with technologies produced by the resourcefulness and craftmanship of common people whose skills were based almost entirely on traditional empirical knowledge. The developing countries also have to embark on a process with which there has been little experience, and have to rely to a great extent on the empirical knowledge of the physical and social environment accumulated in the traditional societies. On the other hand, there is one essential difference between their situation and that at the time of the Industrial Revolution: there now exists a rich and diversified body of scientific knowledge that, rationally used, can contribute enormously to the technological foundations of the new approach to development.

The central problem, then, is to unite the capacity of the modern R and D systems with the experience and knowledge of the environment of the traditional societies to face the technological problems of development. The main objectives would be the following:

- to define broadly the set of practical guidelines to be used as criteria for the technological solutions, in other words, give a very general description of the conditions that will have to be met by the required technologies;
- to study the technologies currently being used, above all in the traditional sector – their empirical foundations, and how they can be used by the R and D system to find technological solutions to satisfy the basic social needs;
- on the basis of the previous analysis, to define for each field of activity the type and characteristics of the technologies to be used, in terms of the functions they have to fulfil; the final results of this stage will be well defined programmes of research rather than blueprints for finished operational technologies;
- to assess the adequacy of the resulting technologies.

V. RECOMMENDATIONS

- *The WCC should establish or encourage multi-disciplinary groups devoted to studies connected with the reorientation of the Research and Development systems in developing countries. The purpose would be to make possible the study of the technologies being used in the traditional sectors of these countries, their empirical foundations, and how these traditional technologies can be used by the Research and Development systems to find technological solutions to problems posed by the new self-reliant approach to development.*

- *The WCC should urge its member churches in developing countries*
  - *(a) to support the concept of self-reliance in their local congregations and set an example through their own policies concerning finances and human resources.*
  - *(b) to encourage numbers of local communities to cooperate in buying fertilizers, and in growing, selling, and storing food*
  - *(c) to encourage the establishment of local centres to train farmers and workers in rural technology. These training centres should also serve as information centres for large sections of the population. Equally important is an active extension service to demonstrate better farming methods and appropriate technology;*
  - *(d) to encourage authorities to provide rural areas with employment opportunities and creative challenges for young people in order to reduce their move to urban areas in search of employment.*

- *The WCC should compile a list of research projects from developing countries that could be made available to universities in developed and developing countries for work in connection with degrees in scientific and technological fields. This would help both developing countries and students who often experience difficulty in finding worthwhile projects.*

Part Three
QUALITY OF LIFE AND THE HUMAN IMPLICATIONS OF FURTHER TECHNOLOGICAL CHANGE

Christians must be concerned to cherish and protect the lives of all human beings and the life of this earth within which we dwell. And within this global community, our first concern must be for the most oppressed, the poorest, the weakest, the most in need.

At a time when 900 millions are malnourished and the human community is engaged on an economic and military course which could destroy all life upon this planet, Christians are called to a new witness and new actions to challenge the reckless exploitation of human beings by human beings and nature by humanity. During the last twenty years there has been a tendency to involve all human societies within this exploitative, GNP -oriented, worldwide system, sometimes even pursued in the name of God and humanity.

We cannot hope to change humanity's relationship to nature without changing the relationship of men and women to each other. These changes call for the transformation of existing social orders, although the methods and details will differ according to the history, and circumstances of different societies. In all types of societies, affluent and poor, ancient and modern, large and small, human beings need to seek new life styles – styles which do not depend upon the escalation of economic growth involving the exhaustion of the earth's resources, destruction of the land, the sea and the air; styles which avoid large dehumanizing machine-like bureaucratic and industrial structures, which fragment communities and alienate human beings from God, from themselves and from each other.

These changes will involve new social patterns, some already in existence, many yet to be conceived. It will involve shifts in power from those who now control the death dealing elements in our social systems to those most deeply affected. It will involve new social systems which encourage concern for the welfare of neighbours near and far, today and for the generations to come. Some of these transformations will require revolutionary changes, others may be possible through evolutionary changes. But the need is overwhelming for a radical break with the present life styles, and their escalating misuse of science-based technology.

I. MEASURABLE SOCIAL INDICATORS OF THE QUALITY OF LIFE

Whenever and wherever people live together organization and planning are required. This in turn requires criteria and guidelines for making decisions. Quality of life requires that every person have the right to live a meaningful life in which he or she can develop his or her own personality as a socially responsible human being. Each person has the right to a minimum of material requirements necessary to such a life.

Social structures necessary to achieve Quality of life will differ widely in different countries and will only be capable of comparison in terms of patterns of relationships between resources, hopes, possibilities and actual achievements. Nevertheless both the quantitative and the qualitative components of the Quality of Life concept convey intricate relationships between the basic human needs of persons and the human aspirations of persons to reach their full development. The fact that requirements differ from one person to another and from one cultural and socio-economic order to another must not be used as an alibi for the rich to defend their wealth.

While it may not be possible to measure relationships between social and cultural needs and aspirations with the same kind of precision that is possible with material goods, efforts must be made to do so. Even the production of food, clothing and shelter needs to be seen not only in relation to the size of the population but also in terms of the cost in pollution, the spoiling of water, land and air, and their accessibility to all secotrs of the population. Even basic health and education services may also be determined in relation to the needs of particular countries and societies and then measured in terms of their availability and accessibility.

There are no criteria by which the nations of the world can be arranged on a single scale of measurement. GNP as used in international planning is a useful tool for economic planning but it must be supplemented by other measurements and indicators.

Quality of Life is affected by both minimum and maximum limits. Maximum limits can be determined by the quantity of resources available, the amounts of various resources which individuals and societies can use without waste, and the necessity to apply standards of distributive justice to all resources in relation to world-wide human need.

Minimum limits depend on individual requirements. For example, daily protein and calorie intake necessary for the health and development of the body, the basic minimal requirements for clothing, housing, health care, and literacy can all be quantified and judged as to their quality, and an adequate level should be provided beginning with those in greatest need.

Present extremes of wealth and poverty work against Quality of Life disparities must be reduced as quickly as possible both nationally and internationally. Thus distributive justice within and between societies as well as the enforcement of all Human Rights are fundamental to any realization of Quality of Life.

II. ESSENTIAL BUT IMMEASURABLE INDICATORS

Beyond meeting the basic human needs which all human beings require and which can be quantified, the criteria for a higher quality of life can only be stated in general terms:

- new forms of community life which will replace the present compartmentalized form of technological industrialization: emphasizing new patterns of home, work, school, church, citizenship, recreation, on the one hand, and a new appreciation of the traditional restrictions of rural life on the other. These new patterns of community should provide for close relationships among generations, a place for the unmarried and the widowed,

the widening of affection and emotional support, care of the young, the weak and the old, conservation of resources and energy, equal participation of women and members of different racial and ethnic groups, sharing of burdens and responsibility of each for each and each for all;
- structures which permit children to develop the capacity to participate in societies as whole human beings;
- productive processes that are resource and energy conserving and as closely tied as economically feasible to local resource, local use and local skill;
- opportunities for creativity, innovation and the realization of potentialities beginning at the local community level and extending to the global community;
- the fullest attainable participation of all members of society in appropriate levels of decision-making;
- recognition of different cultural and linguistic values and structural provisions for freedom of choice among them, consonant with the well-being of the wider community;
- social structures which while encouraging peoples of each nation to devote themselves to the preservation of their land, their people, their cultural traditions and their descendants, help at the same time to increase awareness of the interdependence of all countries. (As long as human societies thought only of dividing up and occupying land, they were constrained to think of boundaries and frontiers. But modern contamination of the air and the seas knows no frontiers.)

III. TECHNOLOGICAL THREATS AND HOPES

A. Impediments to a Higher Quality of Life

There are many obstacles to a better quality of life, some of them extremely subtle and difficult to overcome. For some technology itself is the villain – a systematic, rationalized, managerial manipulation of people and things leading inexorably to dehumanization.

Technology has certainly a profound impact on any traditional culture; many important values are inevitably lost. Others may survive only in a degraded state, prostituted to the new order, as when folklore is preserved solely to generate money from tourism.

But technology's capacity to enhance the quality of life is also a fact, which is why poorer people everywhere look to it with hope. The course indicated is the adaptation of technological processes to suit the values of individual cultures. The forms of adaptation will, of course, vary from place to place, but some possibilities can be forecast. Contemporary industrial organization seeks "economies of scale" – efficiency through large units; but members of many cultures may find small scale technology more humane, and be willing to sacrifice some efficiency to get this humaneness. Contemporary industrial production is often organized primarily for gain which results in such dubious practices as building obsolescence into the product; but most if not all cultures in the future will find it wiser and more satisfying if their economies are motivated more by pride of product, by a desire for quality and durability. Contemporary industrial operations tend to deal in simplified systems of mass production like the assembly line; but human considerations are already challenging such systems, and one may expect societies in the future to take greater account of human needs in the work environment.

Another major impediment to a better quality of life may be, paradoxically, the planned and structured society itself. Centralized planning has been used with varying degrees of success in many countries, and it certainly will play a role in bringing about the higher quality society of the future. It can be valuable especially in serving the common good, in ensuring that the interests of the whole people are defended against the acquisitiveness of centres of economic and technological power, public or private. Moreover, in the long run, the search for better quality will involve some difficulties of transition to new social systems which only a strong central government may be able to manage successfully.

On the other hand, as power is seldom exercised with pure benevolence, the concentration of power poses serious dangers. Even with relatively **good** motives, central planning is likely to impose unsuitable solutions especially when it becomes bureaucratic and loses touch with the human realities of the populace it is meant to serve. The conflict of competing values can only be resolved by each society having due regard for its own history and political and cultural traditions. Some will find centralized authority useful and relatively congenial to the national cultural interests, perhaps compensating for an authoritarian tendency by providing for systematic public consultation. Others will find that their ideal of a high quality of life requires more individual freedom than is compatible with concentrated state power.

Perhaps the most that can be said by way of generalization here is that decisions should be made at the level most appropriate for the result intended, and that, in order to give people some control over decisions affecting their own lives, these choices should be determined at the lowest, most local, level compatible with the goal sought.

For certain aspects of the crisis facing us nothing short of global planning will do and all beginnings of international efforts to deal with armaments, resource use, environmental protection, food and human settlements should be encouraged.

More ultimate and intractable obstacles to a higher quality of life lie in human nature itself. No system is proof against the corruptions of the people in it, but at the same time all human beings have within them possibilities for moral growth. Future social systems should not tempt our weaknesses, but rather appeal to our possibilities of manifesting love and trust in human relationships. In contributing to the development of new social and economic systems Christians will have to make clear that in the way of self-seeking lies spiritual death, but that loving and serving the neighbour is the very life of Christ in us.

B. Alternate Visions and Strategies

Finding successful strategies for altering existing patterns of life depends first of all on understanding how current systems work. It is important to view the problem whole, to see how actions taken in one sphere can have consequences in apparently remote areas; only with such understanding can effective policies be worked out.

The first obligation of those who would transform current values and patterns is to communicate their ideas and findings in every available medium and at all levels – to friends, to colleagues at work, to governments, to the United Nations and other organizations. The report of this conference is itself an attempt at communication and deserves imaginative dissemination. People who have understood the dangers of contemporary industrial society and have caught a vision of a saner future should be encouraged in their sometimes lonely efforts to arouse public and government opinion. Educators have a special opportunity to present this vision.

Since education takes place not only verbally but perhaps even more through popular images and role models, attention must be paid to the life styles communicated through film, television and journalism. The possibility of access to these media is obviously critical. Much will depend on the internal structure of a given society or state, but the effect of such images and models must be realized and controlled. Otherwise evils like conspicuous consumption will be perpetuated in the developed countries; and the developing countries will find their citizens being induced to adopt the desires and habits of consumerism. The upwardly mobile among them may even be drawn to emigrate in search of a life dominated by money and possessions.

Since one of the unhappy consequences of urban industrial society is erosion of family life, preservation of the positive values of family ties could be an important element in the passage to a new and better pattern of life. Children who never see their parents at work have a truncated view of the world; and parents, especially fathers, are too often cut off by their work from their children. The nuclear family is itself in many ways the result of industrial society's erosion of a more extended community of consanguinity. The fracturing of such natural bonds might be overcome in a smaller-scale, more humane organization of the world's work.

Another useful strategy for the churches would be the encouragement of models of alternative social organization, including life styles which challenge prevailing standards of consumerism. The churches' own history is full of such communal experiments, and the religious impulse of many utopian communities is well known. Building on this historic experience, Christians could assist and themselves develop responsible social experiments in living without the ecologically unstable resource-devouring patterns prevailing in most of the developed world. Such pilot communities could contribute to a new economic order less vulnerable to disaster than the fragile complexity we now have.

Such a new order would need a stronger rural base, built on a stable rural economy so that people would not have to migrate to large cities to find work. A society with strong rural areas would have better cities too, relieved of their overcrowding and free to become again the centres of high civilization which the great cities of the past have often been. Where urban life is not cut off from its natural roots, but is nourished by them, its citizens may find again that there is time and space for reflection and contemplation and the development of personal friendships.

There is, finally, the complex of strategies involving direct action by citizens working for the good of society, sometimes through, sometimes against the government. There is no doubt that protests by people sensitive to new measures of quality have stopped or forced revision of many projects of a growth-minded industrialism – perhaps a new major airport or a polluting factory. In all societies such a concern may, of course, take the less dramatic but fully effective form of action through the regular channels of government. Citizens **can** make their ideas heard, perhaps through legislation to encourage changes in life style. For example taxes on raw material use, or upper and lower income limits, or conscious use of the price structure should all be explored for their effects in altering current consumption habits. Such steps may be small and their results gradual but they are realistic ways to start on the urgent problem before us.

IV. RECOMMENDATIONS

We recommend *that the WCC should urge churches and governments:*

- *To enquire into the basis for the establishment of minimum requirements for international cooperation to ensure humanity's survival in the face of:*
  - *(a) collective risks from possible violations of the outer limits of the biophysical parameters on which human life and well-being depend;*
  - *(b) individual risks from lack of food, shelter, health, care, energy, and other ingredients to support minimally decent standards of human life.*
- *To replace the objective of maximal growth of Gross National Product by the objective of Gross National Welfare based upon quality of life defined as the fulfilment of everyone's specific potentialities.*
- *To secure a minimum standard of living for all people of our planet, with equality as the final goal, and to help to inform public opinion by providing accurate information about the present inequitable distribution of resources within and between societies. This includes sharpening the general awareness of the patterns of power and property in the present control and use of resources and challenging those which do not lead to social responsibility and justice.*
- *To seek a reduction in the consumption of material goods to a specified maximum:*
  - *(a) in developed countries where the standard of living is distinctly higher than the minimum standard of living;*
  - *(b) in developing countries where small groups consume at developed countries standards.*

    Since it is objected that this will create unemployment in these countries, we suggest that this can be offset by the expansion of labour-intensive social services which contribute to the social health and cultural well-being of people, as well as the conservation, beautification and utilization of many natural resources.
- *To work towards global management of resources, including the setting of reasonable prices for commodities, measures for indigenous processing, and access for all to the human legacy of scientific and technological know-how.*
- *To evaluate the impact of technology in different social settings and the safeguards proposed in countering the adverse effects of applying high technology to indigenous cultures.*

We urge *the WCC:*

- *To recommend to appropriate U.N. agencies the establishment of international standards for testing and control of new drugs, including use of all chemical pollutants and the control of all exchanges of drugs, pesticides, and dangerous industrial chemicals from developed to developing countries. Testing should include regard for poison dosage limit, embryological effect and mutagenic effect.*
- *To point out the need for international controls in the conduct of human experiments involving new drugs of medical techniques. Many countries to not have laws concerning such experiments which sometimes encourage persons from countries with strict laws to conduct their experiments in countries without them.*

Part Four
HUMAN SETTLEMENTS AS A CHALLENGE TO THE CHURCHES

I. HUMAN SETTLEMENTS AND WORLD SOCIETY

Within the last two hundred years there has been an explosion in the growth of world population especially in the urban sector. By 1800, the world's population had reached one billion inhabitants with 10% of them considered urban. After 1800 both total population and urban population grew at accelerating rates. By 1930, world population had reached two billion with 20 to 25% in the urban sector. By 1970, it was over 3.5 billion with over 40% urban. It is estimated that between 1970 and the year 2000, the urban centres of the world will have to incorporate 1.5 billion new urban dwellers: 80% of these in the economically less developed regions. By the year 2000 over 50% of the world's population will be considered urban.

Urbanization involves the process of concentrating people within certain limited geographical areas of each country. It is largely influenced by the way investments are located in relation to the economic resources of a region. Hence, the settlement pattern in any country reflects the nature of the urban and rural productive systems, and these are intimately related to the particular configuration of social, economic and political power within a particular society.

All societies today are experiencing massive industrialization, rural-urban migration and over-rapid urbanization. Entirely new uses of space and distribution of people emerge. Consequently, a total transformation of the system of social and productive relations, from rural-agricultural to urban-industrial, is occurring. In many developing countries, the annual rates of urban growth double those of national population growth.

The net result becomes manifest, especially in developing countries, in such distortions of human dignity as massive squatter settlements, congestion, environmental pollution, exploitation of labour, poverty, crime and growing alienation of élites from the suffering of the oppressed. Nor have the developed countries succeeded in preventing the violations of human justice attributable to the inability of urban and social institutions to fulfil the material and social needs of their societies. Pollution, traffic congestion, unplanned suburban expansion, crime, drug addiction, inadequate housing and public services, and the paralysis of administrative structures continue to plague even the most modern of today's developed cities.

At the same time, racism, socio-economic segregation, unemployment, physical decay of central districts, land and rent speculation, administrative corruption and insufficient popular participation in the decision-making process continue to demonstrate the fundamental contradictions within institutions and economic systems unable to reconcile the vicious cycle of individual consumption with the collective needs of society.

Despite the difficulties of generalization, we believe the following problems are particularly critical in this context:

- **Poverty:** Average income among a majority of the urban population are so low that they are unable to afford even minimal housing and essential services and, more often than not, food, medicine and clothing.
- **Economic Disparities:** The disparity of incomes between rich minorities and poor majorities is increasing, reflecting the unjust access of different sectors of the population to essential goods and services, as well as productive opportunities.
- **Unemployment and Under-Development:** Unemployment and under-development have reached unprecedented heights in many areas, reflecting both the capital intensive, export-oriented industrialization policies of developing economies, as well as the use of capital intensive technologies in the process of industrialization and city building.
- **Public Services:** There is an increasing lack of housing, public services (sewers, garbage collection, electricity and transport) and social infrastructure (schools, health and recreational centres). About 80% of the world's rural population and more than 50% of the world's urban population is ill-housed and has little or no access to basic services.
- **Segregation:** The spatial segregation of the population by socio-economic groups, especially in the larger cities, is increasing, along with the use of arbitrary rules and regulations to enforce these divisions.
- **Housing:** Squatter settlements, urban ghettos and substandard housing have proliferated due to the scarcity and rising cost of housing. It is estimated that in developing countries, over 60% of all urban construction is self-built.
- **Pollution:** The gradual destruction of the natural environment which surrounds each urban centre proves to be a consequence of the rapid, uncontrolled and speculative nature of urban expansion.

Urbanization has become big business. Its present characteristics reflect the weaknesses, negligence, venality and vulnerability of responsible public powers, the lack of participation of low-income groups and the undisciplined pressure and goals of self-interested parties.

The problems are vast, complex and ill-defined. Many countries do not possess the necessary resources to solve them all at present. However, we believe that with the means now available, it is possible to start a more effective action and to establish some necessary preconditions for future solutions.

II. CHRISTIAN RESPONSIBILITY FOR HUMAN SETTLEMENTS

Christian responsibility for the world takes shape in the struggle against the tragic alienation of humanity and the realization of love, justice and peace, as these are reinterpreted in terms of socially relevant principles. The mandate to develop true community at the local, regional and national level is a challenge to Christian commitment:

- The Christian community should stand as effective advocates for citizen participation in the decision-making process relative to the ways human settlement patterns are formed.

- The Christian community should continually examine the structure and dynamics of land ownership and power within the context of biblical mandates.
- The Christian community should come to realize and restore the original meaning of "righteousness" seen in its original sense as a system of ethical relations between God and men, as opposed to the fragmented behaviour of individuals.
- The Christian community should encourage its members throughout the world to be active in the search for innovative and alternative strategies for urban development and to become strong advocates of the cause of human rights in the issue of housing for all people, regardless of race, religion and sex.

III.. THE ROLE OF THE LOCAL CONGREGATIONS

The present violation of human dignity in settlements all over the world is a crucial challenge to local Christian congregations to take part more actively in the struggle for a more humane urban environment. Some of them are already deeply committed to this struggle; others need to be encouraged to involve themselves in significant patterns of awareness-building and local action, expressing solidarity with and responsibility for their neighbourhood community.

There will, however, be a broad variety of strategies for concrete involvement of local congregations, appropriate to the specific social, political, economic and cultural contexts and conditions.

- Awareness-building and encouragement of laity as citizens, as members of the local community and as job holders. The congregation should educate, train and support laymen, women and youth to participate in the common societal struggle within their secular vocations and through their roles as citizens. In various parts of the world, the emphasis on this function of the local congregation will mainly determine the nature of their activities.
- Participation in and support for local people's organizations. We urge expansion in quality and quantity of the Church's work in encouraging the development of popular organizations through which the powerless gain the ability and opportunity to take part in decision-making processes that affect their lives. Wherever possible, local congregations should support or initiate such organizations. They should participate with the people, through community organization, identify themselves with their problems and help them acquire the social and political power necessary for achieving their common purposes in the interest of a more just society.

IV. THE ROLE OF THE WCC

Through its various units (particularly Church and Society, CWME-UIM, CCPD, CICARWS, PCR, Ecumenical Scholarships) the WCC has been involved in programmes related to the issues of human settlements. These include research and study, scholarship aid for professional urban studies, leadership training projects, publications, conferences and consultant services. Most of these programmes are carried out in collaboration with local, national or regional church bodies. In addition, the WCC serves as a channel of financial support to more than 200 locally and regionally sponsored urban projects. Many of these projects support church participation with people who are

- negotiating with their governments to acquire urban land to build homes near their places of work;
- participating in organization aimed at developing new approaches to urban housing;
- criticizing government policies which re-settle urban squatters far from any means of livelihood;
- initiating job skills training programmes to provide skills for rural migrants to the city;
- establishing labour education programmes to train workers on their rights and responsibility in industry;
- questioning the effects of multi-storied housing patterns and new town planning upon family and community life;
- challenging the process of government planning without the participation of the people who are affected by the plans;
- confronting exploitative land use and ownership which pushes rural people out of the countryside and into crowded cities;
- challenging unjust economic systems which keep some living in poverty and in inhuman conditions.

In view of the existing involvement of the churches and the WCC in questions of human settlements and the need for an enlargement of this concern the WCC Central Committee meeting at Utrecht in 1972, asked the staff to prepare a proposal for development of a major WCC programme dealing with Human Settlements, Quality of Life and Social Justice.

We endorse this action and make some specific recommendations for its implementation.

V. RECOMMENDATIONS

1. Need for Increased Attention to Human Settlements in Future WCC Programmes

- *We urge the WCC to make the human settlements issue a major focus of its work, giving it increased prominence in the WCC programme in the years after the 1975 Assembly. The goal of this programme would be to assist local, national and regional church bodies and action groups to engage in integrated and coordinated efforts of research, development and action that will stimulate and facilitate change in their respective social, economic and political environments.**

2. Review and Reinforcement of Current Work

- *A review of current WCC work related to the issues of Human Settlements should be conducted with the aim of reinforcing the most significant of these programmes, such as the Asian Committee for People's Organization (ACPO), or Professional Training in Urban Studies or Documentation for Action Groups in Asia.** This review should be coupled with the development of a plan for the more adequate coordination of WCC programmes in the issues of Human Settlements within the range of WCC activities themselves and with the activities of councils, churches, Christian action groups and appropriate non-Christian groups in regard to Human Settlements.*

** To prepare for such an expanded programme, it was further recommended that for the period between now and the 1975 Assembly a *WCC staff working group* be formed, bringing together persons from relevant Sub-Units to work on implementation of the tasks outlined in this report.

** An appendix lists more fully the current WCC programmes related to human settlements issues.

- *The WCC working group should give attention to the improvement of the structures of communication and develop contacts between church-related groups actively concerned with human settlements. Greatly improved processes are needed for reporting of experience and reflection of local groups so that they may benefit from one another's experience. The WCC should assist in linking local action groups with centres providing data and technical expertise. Persons in various parts of the world with various kinds of skill, experience and expertise should be identified, persons who are willing to commit time for consultancy, evaluation, project development and other services to local groups.*
- *Attention should be given to the relation between action and research. Ways should be explored for making research and action complementary at the local level. Consultation with local action groups should be pursued to seek appropriate mutually interactive and cooperative efforts. Careful attention should be given to the ways technical expertise can be made available to people's groups. Reports of the experience which local groups have had with outside technical experts should be prepared, studied and circulated. Efforts should be made to develop working relationships with technological experts who are not compromised through heavy commitments to traditional and established policies and practices of governments, corporations and universities.*

3. Three Major Areas for Study

a. A Study of National Urbanization Policies and of Land Practices

The WCC, in collaboration with regional, national and local church bodies, should undertake a study and analysis of urbanization policies, land use and ownership practices in developing and developed countries. Such a study should include the effects of speculation, the mechanism of land price formation, the influence of land costs on urban settlements patterns including the creation of squatter settlements and the role of popular participation.

The study should be designed to include a continuous analysis over a period of years in several countries where the churches are active participants in the urban scene and expect to be active in the coming years. The experience with urbanization and land use in countries having different kinds of economic, political and social structures should be studied with the aim of identifying the potentialities and limitations of their different approaches to urbanization and land use.

b. A Study of the Impact of Multi-National Institutions and Interests on Urbanization

The WCC, in collaboration with regional, national and local church groups, should make an evaluation of the actions and policies of multi-national groups and international organizations whose interests, in large part, determine social and economic plans and the physical structures of nations and cities. Special emphasis should be put on the impact these groups have on investment policies and technology, with special reference to the technology applied in the construction of human settlements, its social impact and its impact upon labour conditions in the building industries and in establishing national and local housing and service standards.

Such study and research should give attention to racial and social influences and effects at work through these institutions, as well as to the utilization and mobilization of resources, human and otherwise, in bringing about better human relationships conducive to authentic development and social, economic as well as political justice.

The role of the churches as multi-national agencies should not be neglected in this study.

Special attention should be given to mass migration of foreign workers to Western Europe, especially concerning their intolerable housing conditions, their isolation and segregation from the native population and the resulting racism.

c. The Church as an Owner of Capital and Land

In some countries, the church controls large amounts of invested capital and sizeable amounts of land and other property. The participation of the churches in reinforcing current systems which aggravate settlement problems (such as land and housing speculation) should be examined.

Plans and models should be developed to demonstrate how churches can use property and capital to aid in solving human settlements problems, e.g. low income housing developments.

Attention should be given to the biblical and theological understanding of the issue of land ownership. The following points are suggested for consideration:

- *Theological and ethical studies are needed on the concepts of inheritance of economic and social privileges and on the issue of speculation in land and housing, as well as on the question of land ownership.*
- *It is clearly stated in the Old Testament (Deuteronomy 10:14 and 1:22) that the land of Canaan was passed to the people of Israel as the patrimony of God. Hence, property cannot be seen as, in the sense of Roman Law, being private and individual, but rather, as a Trust of God.*
- *Three points to be emphasized are: (a) Usury was forbidden amongst the people, originally for the benefit of the weak but later in relation to all society (Deuteronomy 23:20* et seq.*). (b) Every seventh year, all loans were remitted (Year of Remittance – Leviticus 25:8). (c) During every half century (every fifty years), all land that has been acquired during that period is returned to the original owner, i.e. to the people, the community, God's chosen people, and all slaves are freed. The Jubilee Year is the special expression of the Old Testament concept of land ownership (Leviticus 25:10).*
- *The Old Testament concept of property is essentially founded on the idea of God's revelation of the solidarity of all of life. Thus, in the comprehension of God, we perceive the interrelatedness of all Being, as revealed in the concept of Shalom.*
- *In the New Testament, we find neither a justification of, nor a challenge to, existing property laws. This has been the basis for misunderstanding of the true nature of Christian concern. In reality, the gift of God's Shalom is continually revealed in the service of love. This gift comes into existence within the specific context of the Christian* koinonia *and is manifest in the vision of the Heavenly City. Hence, the danger to humanity emerges through the injustice of mammon which should be seen as a distortion of human relations and not in the existence of the object itself.*

APPENDIX:

Current WCC Programmes Related to Human Settlements Issues:

(1) *Institute on the Church in Urban-Industrial Society* – Collects and classifies documentation on church involvement in urban centres, publishes bibliographies and selected documents, e.g. Squatter Communities, Rural-Urban Migration. (2) *Documentation for Action Groups in Asia* – Documentation on particular actions, and regional study on multi-national corporations in Asia. (3) *Support of Special Research Projects* – recent studies on Housing for the Poorest, Rural-Urban Migration. (4) *CCPD Development Dossiers* – e.g. Housing, Appropriate Technology. (5) *Aid* to fifteen local and national publications on church participation, urban and industrial issues. (6) *Training* – Professional training in urban skills for several dozen church sponsored persons in six years; support of regional and local urban training programmes, e.g. urban training for 24 persons from twelve countries for nine months with AACC, LWF and Vatican Commission on Justice and Peace. (7) *Asian Committee for People's Organization:* 70 persons trained in people's participation skills; community and labour organizing in fifteen cities. (8) *Churches in Cities Programme, Latin America:* Proposed two-year programme for pastors and local congregations. (9) *Support to Church Groups* in Kenya, Zambia, and Philippines which contract with World Bank for community participation programmes as condition for loans to governments for low income housing. (10) *Ecumenical Institute,* Bossey – courses and conferences, e.g. on Power and Property. (11) *CICARWS Project List* – e.g. Village Polytechnic Programme in Kenya. (12) *Financial Support through Regional Councils* to hundred selected urban programmes. (13) *Maintenance of communication* and exchange network among 500 church-related urban programmes. (14) *Church and Society* Enquiry on Technology and Society – regional and international studies of urban development policies and the human environment. (15) *WCC Migration Office,* ecumenical projects supporting justice for migratory labour.

Part Five
WORLD SOCIAL JUSTICE IN A TECHNOLOGICAL AGE

I. JUSTICE AND TECHNOLOGY IN CHRISTIAN PERSPECTIVE

Science and technology witness to and put in practice some of the most outstanding capacities of intelligent human mastery of nature which was entrusted to us by God at Creation. Men and women are responsible under God for their proper invention and use. As ambitious, avaricious, proud, in short, as sinful human beings, we too often follow violent and destructive urges to use scientific and technological power to misuse creation and abuse other people. But in Christ a new vision is given us, the possibility of being transformed by the renewing of our beings in love, which should allow us to use technology in a deep feeling of concern before God for the good of our brothers, of the society, and of the world in which we life. The humanization of technology depends upon the humanization of human beings.

In this task, Christians will find themselves working with people of other faiths and ideologies with whom they share common ideals, principles and goals, while, laying hold on the renewal brought about by Christ, they make their own authentic contribution to the transformation of society. They have an assurance that the power of the risen Christ is at work in the world. Every time the bread and wine are shared in the Lord's Supper, Christ's presence and his Kingdom are celebrated and set forth. If we are ever tempted to feel a sense of helplessness and despair at the immensity of the problems facing humanity and the obstacles to dealing with them, we know that in a fundamental sense the future is secure in God's hands, and Christ's victory is an assurance of this. Suffering, pain and anguish are part of the human lot; and for many millions in the world they are almost overwhelming. But to those for whom God's grace is not only a future promise but a present reality, even their sufferings may confirm God's presence.

We face the task of relating Christ's victory to a world in which science-based technology has increased the possibilities of serving humanity and at the same time raised acute problems because of its misuse and accentuated social injustice. Disparities between rich and poor are growing. Rich countries have their own problems of injustice. Their self-confidence has been checked by the oil crisis and the growing evidence of the dangers they are running by their pollution and waste. They are tempted to react in a short-sighted way, and to forget the peoples of Asia, Africa and Latin America. Basic features of our environment – water, earth and atmosphere – can no longer be taken for granted, but must become the subject of responsibility under God for present and future generations on one earth. The age-old question of distributive justice is raised in an acute form.

In the rich world awareness of these issues is limited to a few sectors of society, and it has not been effective in creating mechanisms to forward self-reliance in dependent countries. Indeed their dependency has increased. The peoples of Asia, Africa and Latin America are beginning to reject aid and to try to master by themselves their situation as dominated countries. They are increasingly restive in a situation which to them seems more and more intolerable. Liberation is for them more than a word; it is a challenge to move as well as a goal to be achieved. What then can be said today about the form of justice for our age in the light of the resources of our faith? We suggest the following:

First, justice in the Christian understanding has never been limited to a balance of rights and possessions. It has never meant simply equality, although the equality of free people before God is basic to it. Rather, justice expresses God's affirmation of the poor, the weak, the disadvantaged, the liberation of the oppressed and the fulfilment of those who are submitted to injustice and excluded from a full place in the community of human hope and responsibility It is God who justifies them, transforms their condition and gives them humanity.

Second, the above implies a responsible use of technology and production power. The poor of the world have the right to a human level of food, clothing and shelter. But it means much more, without which even this would be enslaving. It means that their struggle for justice and liberation should be supported, because it is through this that they will come into free and responsible participation in the community which bears stewardship of technology and production. To serve God's justice means to share his gifts of both power and wealth-producing capacity.

Third, a Christian understanding of justice subordinates material prosperity to the quality of human community. It thus sets a double limit on humankind: material things and the other person. It is nowhere promised that human beings will be secure in material possessions against the threats and claims of other people. Some of the strongest threats of judgement in the New Testament are reserved for those who trust their own riches and goodness. Wealth is a temptation because it leads people to trust in their own power and to forget the claim of their neighbour. The promise of the new life in Christ lies in the transformation of material goods into new dimensions of human relations. The promise of God for the common life lies in economic choices which develop the general welfare over the private interests of individuals, and the quality of human relations over the increase of material consumption. Because of that promise, and as a sign of it, Christians and churches must participate in the political, economic and technological struggle for the best possible control of power for human ends which sinful human reality will allow.

Fourth, justice in Christian understanding refers to the judgement and mercy of God, calling us to repentance and showing us the consequences of our acts. It is not promised to any particular civilization, nation or people's movement that it will be saved. We can be sure that God's hand is in the judgement that will befall us if we do not find ways of curtailing the greed of technological societies and of securing justice for the poor. The Church has to interpret the signs of the times – food scarcity, pollution, the plight of the poor nations, technological and scientific power and achievement – as evidence of his judgement and mercy.

Fifth, scientific discovery and technical invention have bred a false confidence in human power, but they have also borne witness to a dimension of God's promise in the witness of Scripture to the Gospel of Christ. "The whole creation waits with eager longing for the revealing of the son of God" (Romans 8:19) and will be reconciled in Christ who is the head of the Church Colos-

sians 1:18-20). Creation is not static. God sets its limits and opens the horizons in which we are to live. The search for justice in a time when we are acutely aware of our own dangers, our limits and our possibilities must not forget this. Who knows whether our world of science-based technology will in the end respond as Nineveh to the prophet Jonah rather than as Babylon to Daniel?

II. THE ROLE OF THE CHURCHES

The churches as part of the world's societies share responsibility for world social injustice and for the development of the kind of science and technology which may contribute to bringing about justice or preventing it:

- The "conventional wisdom" of theology has too often separated reality into personal and social, spiritual and material, religious and secular spheres of life. The withdrawal of faith into the personal, spiritual, religious realm has allowed science and technology to develop without reference to the whole human condition. Often it was assumed that science and technology were governed by natural laws to which the Church and theology had nothing to say.
- The churches' too exclusive promotion of individual inner values bears a large responsibility for the "organized concupiscence" of the affluent societies shaped by science-based technology. The liberal version of freedom as self-regulating force in human affairs has not been sufficiently challenged by a vitalized Christian understanding of freedom. Without justice, freedom becomes arbitrariness, without freedom justice becomes tyrannical.

The churches have therefore as a primary task to set forth and to live a different set of values conducive to a life style minimizing human costs.

While the churches live within a great variety of socio-political systems and under very different social and organizational conditions they are, at the same time, all confronted by a one-world economic context shaped by science-based technology. The setting of church action is therefore global, as well as continental, regional, national and local. There is a need for an interrelated strategy of church action on all levels. Moreover, the churches will have to take into account the complex organization of decision-making relating to science and technology and the effects on social justice, within and between the national units. There is a need for the invention of social mechanisms which enable science and technology to serve social justice at all these levels. The global character of the crisis of the world economic system makes a commitment to social justice on all levels, from local to international, both necessary and possible.

Church praxis (reflection-action) has to be more than moral good will. It has to act in solidarity with the oppressed by participating in the struggle against oppressive structures with the aim of liberating both oppressed and oppressors, in order that power may be shared. This is the precondition of true reconciliation and community.

RECOMMENDATIONS

● *The churches must prepare themselves for a combination of short and long-term action for the achievement of world social justice in relation to the threats and possibilities of science-based technology. The following kinds of church action are recommended:*

- *"conscientizing" people to the realities of the rapidly changing social situation;*
- *supporting the oppressed, including giving aid to those in need;*
- *negotiating with the powerful on behalf and in solidarity with the powerless;*
- *exposing and challenging exploitation and oppression, greed and selfishness;*
- *developing and living a different kind of life style especially in the use of the churches' own power and resources;*
- *supporting and participating in institutions and movements which further freedom, human rights and justice;*
- *exercising a pastoral ministry which will turn people from preoccupation with their own material security to love and concern for their neighbours.*

III. TECHNOLOGY, POWER AND JUSTICE: PERSPECTIVES OF THE DEVELOPING COUNTRIES

Presented below are several statements on the concern for social justice from the less technologically developed regions of the world, interpreting the problems they face in coping with the economic, political and technological power of the industrialized world. There are different emphases and different special concerns in these statements, though there are common themes which all affirm:

- A major problem for nearly all the developing countries is the influence and intervention in their domestic affairs of foreign economic power, heightened by technology, expressed through multi-national corporations or other instrumentalities. A dominant and wealthy minority in the developing countries usually allies itself with this foreign influence, accentuating the division between rich and poor in the country itself. Decisions made by this power élite may create economic growth in terms of GNP but they do not develop the country. At best they import an inappropriate technology which perpetuates dependence on foreign know-how and supplies. At worst they serve their own and foreign profits and power. In certain cases, as in Southern Africa and the Middle East, this economic and technological power becomes involved in war itself.
- To cope with this foreign power planned and organized self-reliance is a first requirement. Developing countries cannot count on industrially developed powers giving aid in sufficient quantities and of the right kind, offering favourable trade conditions, or sharing technological knowledge and economic power as an act of justice or goodwill. No nation or multi-national corporation can go far beyond its own interests in its policies. Therefore developing countries must mobilize and control their own resources, including whatever trading power they have, in order to bargain in the international sphere for what they need, and to secure a just life for their people. This does not mean withdrawal from the international community or a rejection of the interdependence of the modern world. It means developing a posture of maximum strength, to minimize dependence. It means nationalism as a precondition of responsible internationalism.
- This implies strong government and broad forms of participation by the people in political policy-making. Only this participation will weld a varied people, often speaking different languages and having different local loyalties and customs, into an

active developing nation. In most Third World countries the mass of the people lose out in the economic struggle for lack of an effective voice in policy-making. At the same time such participation will strengthen the ability of government to carry out policies in the general interest. There is to be sure a certain tension between broad participation and strong government, but it is a tension which must be resolved without recourse to irresponsible dictatorship – at the cost of civil liberty and justice – or giving up the hope of effective government.

- Implied also is realistic economic planning directed towards social justice and aiming at conserving available national resources, with minimal dependence on foreign ones. Without prejudging the question of socialism versus a market economy for every country, it is clear that basic decisions about priorities for investment and production, appropriate technology, the use of the labour force, and social security must be made by the responsible public agency, the state. This may be consistent with competitive private enterprise in some areas, or more nationalization in others. But a developing country with limited resources, in a world of powerful economic and political forces, cannot afford to have decisions about the welfare of its people made on the open market alone.
- All of this belongs in a positive context: a vision of social justice, of a truly human life in community for all people. This vision will appear differently in different parts of the world. In no part of the Third World can or should it be the mirror image of the overdeveloped, consumer product-oriented, individualistic society of Europe and North America. Another goal for human development is needed. Not only because the world's environment and resources could not stand the universal development of economic growth on the scale of the North American economy, but because such a development would be untrue to the cultural genius and spiritual insight of most of the world's societies.
- All of these considerations are challenges to the churches in the developing countries, whether they have a large influence as in Latin America, or are small minorities, as in much of Asia. They have a spiritual task to make the promise of God real for the people where they minister; a theological task to interpret the struggle and vision of the people in light of Christ's presence and work; and a practical task of being involved in the social struggle with all its ambiguities but with the hope that the Holy Spirit can transform the spirits of human beings.

A. Asia's Need for New Patterns of Production and Consumption

Development is a process to overcome poverty. Therefore, the benefits of economic growth should, first and foremost, go to the poor people. That is the implication of social justice.

It is however misleading to describe a country as "poor". Such generalized labels obscure the fact that within that country there are small pockets of the privileged which control economic and political power, and thereby appropriate the major share of production. Existing socio-economic structures tend to serve and promote the interests of this dominant minority. As a result the rich become richer, and the poor, poorer: a phenomenon which characterizes many countries of Asia. In all such cases there is economic growth without social justice. This cannot be called development because it stems from a process that fails to overcome poverty.

Two other aspects of this condition merit serious consideration. **First,** a high rate of growth strengthens the structures that resist change and a just use of social resources. **Second,** international economic processes enter a developing country through these non-egalitarian domestic structures and thus become allies and adjuncts of the status quo There is a significant difference between exploitation in the colonial period when there was direct domination by the powerful nations; today it is domination by invitation.

Since existing structures of power subvert efforts to overcome poverty, development is possible only if they are radically changed. Further, since these structures represent the domestic outposts and custodians of international injustice, developing countries can engage effectively in efforts for international justice by a struggle for change in their own societies.

In the light of the understanding of development suggested here, it is possible to indicate specific elements of production and consumption priorities conducive to social justice.

- Resources should be applied to the production of essentials and withdrawn from less essential production. For instance, low cost housing rather than luxury apartments and five-star hotels; public transportation rather than automobiles for private use; coarse and medium cloth rather than fine textiles, expensive silks, synthetic materials, etc.; small irrigation projects rather than huge multi-purpose projects; training for basic rural health services more than for modern medical skills which lead to a concentration of medical facilities in urban areas. All these shifts in production can be introduced immediately.
- A change in production priorities implies a restriction of consumers' choice in the better-off-sections. Such regulation of consumption is an essential part of social justice. Only a small proportion of increments in national production should go to the relatively prosperous sections of society. In effect, we have to operate with a "desirable minimum/permissible maximum" yardstick.
- In practical terms, people must have income to buy goods. Hence they must have gainful employment. Big projects (gigantism) and industrialization on the basis of technology acquired from advanced nations, have failed to absorb the available human resources. Therefore, a simpler labour-using technology is necessary. Capital-intensive technology imposes heavy foreign exchange burdens and has, so far, not succeeded in utilizing indigenous resources. Thus even on the optimization principle of conventional economics, this kind of technology is of doubtful efficacy for developing countries.
- As under-employment and unemployment are overcome, people are drawn into the production process. This increases the possibilities of people's participation which is so important for successful developmental efforts. The use of simpler technology creates preconditions for decentralized production and can overcome the "rural push" which is forcing increasing numbers of people to migrate to cities and industrial centres. Anarchic urbanization in Asia is a dehumanizing force which needs to be arrested, in the interest of social justice.

B. Technology and Liberation in Africa

Science-based technology should assist in the total liberation of humanity, including the shackles of colonialism and imperialistic domination. It should also liberate people from the forces of nature that threaten their survival and enable them to control their own environment – physically and economically. In Africa this liberation movement has three dimensions:

Southern Africa

The struggle for a just society in Southern Africa (South Africa, Namibia, Zimbabwe, Angola and Mozambique) is a serious challenge not only to the Church but to all forces working for the realization of freedom and justice in the world. The régimes of white settlers in these areas, have denied and continue to deny political, economic and social justice to the majority indigenous population. Moreover, the white minority régimes and colonial powers in Southern Africa are using sophisticated science-based technology to terrorize, regiment and deny the indigenous population their humanity. The wars of liberation launched by the leaders and movements of the peoples of Southern Africa is a reaction to many years of oppression based on the ideology of racism and implemented through use of a superior technology. In other words, the violence of the oppressed in Southern Africa is an attempt to achieve social justice in a society where reactionary violence is institutionalized.

The achievement of social justice in Southern Africa depends upon the pace and pattern of the struggle to acquire power by the majority of the fifty million indigenous people. They have clearly and forcefully stated their desire for national independence based on freedom and democracy. They have demonstrated to the world their determination to achieve these goals by laying down the lives of their own young men and women in the cause of freedom, social justice and national independence. The determination of the masses for liberation is clear. They have shown a creative use of the technology in their hands to bring social justice, and have organized the nucleus of a new and liberated society. The challenge for us in the church is whether we can respond meaningfully to the material and moral needs of these people in their attempts to build free and self-reliant societies.

Independent African States

Many people, men and women, living in independent African states remain victims of exploitation, and injustices meted out by the ruling élites (military or otherwise) whose policies and programmes do not serve the basic interests and aspirations of the mass of the people. There is urgent need to democratize African governmental systems and to harness and use the natural resources of these countries for the benefit of the mass of the people. The uneven development in Africa with the city dominating the rural periphery where a majority of African people live, and where developed areas within each national state drain the surplus of the peasant production to subsidize the ostentatious living of a few, is a serious challenge to those fighting for social justice in Africa.

The national states of Africa in particular should remove all traces of ethnic and religious tensions, and economic inequality within their own societies, in order to strengthen their moral and political standing in the global struggle they must wage against the racism of white people and economic exploitation. The racism and exploitation represented in the slave trade and continued under colonialism, and now neo-colonialism remains the central factor in international social and cultural life.

Africa and the International System

The structures which dominate Third World countries in the present international system have already been outlined and need not be repeated here. The major task before us in Africa is to find practical ways and means of transforming and democratizing these structures. The first step in this direction is for the national states of Africa to foster programmes of participation by the people in spheres of government and development, thereby creating structures for self-reliance, and economic and social independence. The struggle to bring social justice within the national states, to build self-reliance and to achieve economic independence is an integral part of the fight against international injustice.

One of the dimensions of the Third World dependency which does not receive enough attention in the discussions on economic and political aspects, is the cultural and psychological dependency of the people. This mental dependency is a hindrance to Third World development and realization of self-reliance in these countries. It is therefore necessary that a process of re-education of the Third World should be instituted to remove this legacy of colonial domination.

C. Latin America – The Injustices of Economic and Technological Dependence

In the last ten years an increasing number of Latin American social scientists have defined the situation of their countries as dependence on the centres of world economic power. This dependence can be seen in the growth of the public and private external debt of these countries, but even more in the penetration of foreign capital. The high return on these investments does not remain in Latin America, but goes to the foreign investors. This dependence is a hindrance to development.

Economic dependence implies also technological dependence. A very high percentage of present technological input in Latin America comes from abroad (U.S.A., Western Europe, Japan, U.S.S.R., and other European socialist countries). This involves an application of technology that does not always take into consideration the social factors (abundant labour), cultural values and the environmental conditions. In most cases the know-how remains in the hands of expatriates, and reinforces the dependence of indigenous people. At the same time, investments in research are not sufficient to improve an indigenous technology appropriate to the Latin American situation.

This situation of dependence leads to inequal growth and social differentiation in these countries – there is an amazing accumulation of wealth for a few, while the majority of the population has to live in poverty.

Economic, technological and social dependence also implies political and military dependence. Those countries which in the last decade were ready for social change were prevented from action by the intervention of military power. Coups d'état have in several cases been aided by, and have consolidated political dependence on, sources of foreign military assistance.

The military group has proved most effective in making the kind of adjustment required by foreign investors in Latin America. If the dissatisfaction of the people were to find expression in social unrest foreign investment would not be forthcoming. Therefore there has been the increase of authoritarian régimes in the last ten years with consequent injustice. Unemployment is increasing in both rural and urban areas; distribution of GNP is favourable to privileged groups (exceptions: Argentina and Cuba). Those who commit themselves in the struggle for change generally suffer persecution, prison, torture, exile and often death. Violations of human rights occur at all levels.

Visions of Justice

How do the Latin American people try to overcome this situation? First, an increasing number of persons think that there is no possible solution within the existing conditions. They feel that change is a must. What happened in Chile in September 1973 was

the clearest example. Second, as a result of this awareness, people continue to strive for change. This is illustrated by the actions of peasant groups last February in Bolivia, and by the continued mobilization of workers and peasants in Argentina. Colombia is providing another example of the unrest of the rural masses.

In all these cases nationalism plays an important role at the ideological level. It is an integrating factor for those who want to break with the situation of dependence and its injustice. It is a tool for the reaffirmation of countries' sovereignty and people's values, as well as a force – coming from the people – compelling those countries to confront in one way or another foreign domination.

What is the objective of these groups which are struggling for change? Though very few of them have formulated it clearly, it can be said that all these groups, looking at Latin America for the next 40 to 50 years, seek new social structures which would

- establish democratic, participatory forms of power;
- consolidate independence and national sovereignty;
- integrate Latin American people, and not only through trade agreements;
- create conditions for the exercise of self-reliance by Latin American people;
- socialize the structures of production.

Practical Measures Proposed to Achieve this Goal

Economic Measures

All who share a vision of justice in the future of Latin America recognize the need for a **National Plan** in each country which would benefit all sectors of society, but especially the under-privileged. The main emphasis of such plans should be distributive justice.

(a) Major emphasis should be on land reform to rationalize and improve rural development, to create equity among the forces of production in rural areas. This would help to persuade young people of the rural areas not to migrate to the cities, and at the same time would create a better basis for a non-dependent process of industrialization, subject to the people's needs and national goals.

(b) The resources of the subsoil (minerals, oil, etc.) should be nationalized. The benefits of the exploitation of such resources should be controlled by governmental bodies and used according to the priorities established in the National Plan.

(c) Measures should be taken to control foreign trade, the banking sector and national savings.

(d) Considerable incentive should be given to regional and subregional integration to consolidate the real independence and the sovereignty of the people of the region. (The Andean Pact is an attempt to achieve this).

Political Measures

(a) It is extremely urgent to establish democratic structures of political power. This implies the creation of multiple forms of popular organization for effective participation in decision-making processes.

(b) It is also necessary and urgent to re-establish civil liberties and human rights (now violated in almost all Latin American countries).

(c) The National Plan implies the existence of strong governmental bodies, able to formulate and carry out the necessary measures. These strong governmental bodies must be based on a popular consensus and geared to satisfy the general interests of the nation.

Technological Measures

(a) It is a priority to initiate programmes and projects, at regional, sub-regional and national levels, to develop the greatest possible potential of energy before the end of the twentieth century.

(b) Large-scale investments in research are needed to achieve a satisfactory level of appropriate technology.

(c) The existing technology should be re-oriented according to the National Plans.

(d) Latin American countries should continue to import technology, but in accordance with the National Plans. The new technological imports should not come predominantly from one or a few countries, but from where the best bids can be obtained.

(d) All this presupposes in the majority of Latin American countries the reformulation of objectives and plans for the educational sector at all levels, to create interrelations among different sciences, and diminish technological dependence.

The Role of the Churches in Latin America

Churches cannot escape their historical context. Their action is characterized by a certain ambiguity (they support, through the action of their members, both conservative and progressive forces in society). At the same time they are constrained to avoid a certain triumphalism and resist the temptation of power; and they begin to become aware that there are not Christian solutions to socio-economic problems.

In this situation of social tension, the Latin American churches (the Roman Catholic Church is the most clear example) are experiencing a transformation which results from a process of biblical, theological, liturgical and pastoral renewal. This enables them to participate in a more positive way in popular movements, in the struggle for justice, and the cause of the oppressed.

At the theological level this is exemplified in the development of the so-called "theology of liberation", which has as its point of departure an analysis of the situation of dependence and oppression suffered by Latin Americans, and which asks Christians to support liberation. New insights for theological education are emerging from such thinking.

Even more important is the manifestation of a new presence of the Church in society, which seeks to express the theology of liberation in different ways: education for social justice; participation of Christians in movements of popular mobilization, participation of laymen and laywomen in the decision-making process concerning projects and programmes of the churches, etc.

All these movements and actions make sense in the Latin American context when they manifest themselves ecumenically. This presupposes that the action of the Roman Catholic Church should be taken most seriously, and that the Evangelical (Protestant) Churches should become more open to the ecumenical dialogue and to the process of becoming real "Latin American churches".

D. RECOMMENDATIONS

- *Taking into consideration the particular contexts of Asia, Africa and Latin America and their implications, we recommend to the churches throughout the world that they*
  1. *support and participate in efforts of people of Africa, Asia and Latin America to achieve social justice and self-reliance and to create structures which would enable them to participate effectively in society;*
  2. *encourage theological thinking in the context of people's efforts for justice. A step forward would be to find new ways of practising theology, i.e. to develop a critical theology rooted in the life of the people;*
  3. *become involved in and, if necessary, initiate development programmes oriented to social justice, self-reliance, liberation and economic growth;*
  4. *enlarge their support of research and exploratory programmes to develop appropriate technology.*

IV. THIRD WORLD PEOPLE IN AFFLUENT SOCIETIES

Affluent countries are hampered in dealing with the problems their preponderant power creates for the rest of the world by injustices in their own territories. Those which are recognized cause intense domestic political discussion which takes attention away from the international issues; whilst others concern submerged groups who are only slowly securing attention. The powerful European Community has hardly begun to do justice to the migrant workers its own affluence has brought in; and in many countries immigrants get scant consideration, and their children, who may have been born and educated entirely in the country, are still tending to be treated as second class citizens. Furthermore, an inflationary situation is permanently unfair to the elderly and retired, and to all who are in a weak bargaining position.

In the U.S.A., the impact of economic and social policies is more severe on coloured workers than their white counterparts, whether it is a question of unemployment, conditions of work, access to social services or changes of upward mobility. Not only Blacks are involved, but also Hispanic Americans and American Indians. These groups are engaged in a series of struggles to better their conditions and move towards self-reliance. There are innumerable voters' and tenants' rights campaigns; boycotts and selective buying campaigns being carried on by Blacks; and the United Farm Workers' strikes and boycotts, led by Cesar Chavez, are means in the struggle for social change.

Churches, who above all should be sensitive to the poor and oppressed, should be foremost in drawing attention to these injustices and in giving moral and financial backing to those striving against them.

V. RESPONSIBILITY OF AFFLUENT SOCIETIES FOR WORLD SOCIAL JUSTICE – TWO VIEWS

The following two statements on the situation in the affluent countries both call for "revolutionary" changes in life styles, economic practice and theory and thus in the underlying values of over-developed societies. But there is fundamental disagreement on how to bring this about.

The consequences of such changes both internally and externally are difficult to assess.

There are important questions to be raised about the efficacy of the changes suggested if they are not accompanied by qualitative changes in patterns of production and in the kind of technology transferred to the Third World; and if the frame of reference of the social planning activity called for remains the nation state.

There is also the question of how far voluntary action by the churches aimed at a change of life style in the affluent societies can at the same time contribute to the establishment of the new structures needed to bring about international social justice and with it self-reliance.

The two statements therefore represent two different and, in places, contradictory views on the issue of the quality of life and the social justice already achieved and still to be achieved in the affluent societies, and on how far and in what ways the ethically desirable is economically and politically attainable.

It was not possible to reach agreement on these issues but they are of utmost importance. They need to be researched carefully. Action on them cannot be delayed because the needs are pressing.

A. First View – Need for Radically New Goals for Overdeveloped Societies

For the countries of the Third World, the industrialized countries no longer constitute a hope for the future, a source of capital and technology necessary for their development. On the contrary, because of the exploitative character of their investment and technology, the activities of multi-national companies, and a world trade system which has always benefited the affluent, the industrialized countries are regarded as a main hindrance to the development of the two-thirds world. The developing countries are therefore struggling for social and economic self-reliance. The essential element of development is no longer aid, nor even trade, but liberation from prevailing economic power. Orientation of national economies towards their own human and natural resources and nationalization of raw materials have become prerequisites for development in the two-thirds world. Since the industrialized countries have to a large extent created their affluence by economic exploitation of others, the effect of such liberation will be a reduction of their material welfare.

The recent oil crisis is one example of the struggle for self-reliance in the Third World. The meaning of that crisis is that the producing and developing countries working together through OPEC have taken over the oil power from the consuming and industrialized countries. By acting together the developing countries can use their raw materials as instruments of power, and can thereby force the industrialized countries to change their patterns of consumption.

The ecological crisis is forcing the industrialized countries to reduce their consumption of non-renewable resources. But this change in the consumption patterns is a direct consequence also of the struggle for self-reliance in the developing countries, and a contribution to global economic justice. Today, the industrialized countries are using the bulk of the world's resources, and have a level of consumption totally incompatible with the unsatisfied needs of the two-thirds world. International justice requires that a need-based minimum, in terms of food, housing, health and education, be assured to every person in every country. But since resources are limited it also requires a highest permissible maximum for consumption in developed countries. It is quite clear that in industrialized countries the standard level of consumption is above

that maximum. They are overdeveloped, and have to reduce their consumption.

Thus the goal of development in industrialized countries should not primarily be economic growth and a rising GNP, but a higher quality of life with social justice. This corresponds to the world-wide search for a new concept of development which is not based alone on economic growth.

From a Christian perspective, the necessary change in the industrialized countries could be interpreted as a process of salvation. In this world we are slaves to evil and collective sin, which are manifest in over-consumption, greed, and exploitation of others to achieve personal comfort. However we have grasped, through Christ, a new reality, the Kingdom of God, and thereby the possibility of liberation from this kind of world. Christ's revelation has opened up for us other and deeper values, transcending consumption and material welfare. Such a change in the consumption-based society would really mean liberation, the "good news" to be freed from the sin of "unequal growth"; to be liberated for a world in which justice and the quality of life are priorities. This means to give new meaning to life.

Thus we can face creatively the alternative to the consumption-based society. This alternative is a society with at least four characteristics:

- The increased production of goods and services is not a value in itself. What is important is that those goods and services are produced which meet the basic needs of all people and which result in the highest possible quality of life.
- Technological innovations are developed cooperatively to produce the material requirements of life, without destroying nature or exploiting others. Employees have the right to participate in decisions regarding how the products they help to manufacture are used, the plans of their company for research and the determination of company policies.
- The goal is not only a maximum of welfare and quality of life but also their just distribution. Because of the limits to resources and the demands for self-reliance a maximum level of consumption will be set both at the national level and the world level. This maximum has to be determined in accordance with what can be produced without destroying the environment or using a disproportionate amount of the limited world resources. Since social injustices still prevail in industrialized countries, a need-based minimum should also be worked out. It is especially important that the workers and under-privileged people not become the victims of the change in patterns of production and consumption.
- Technology is geared to fulfilling these humane criteria. This suggests a technology of a smaller scale, less complex and specialized than that of the overdeveloped society, but one which will nevertheless meet basic human needs – an "appropriate" technology, more humane than the one used now, more compatible with nature, based on renewable resources and on quality rather than quantity.

This alternative to the consumption-based society seems to be built on principles which are in contradiction with those of our present economic system. It challenges the focus on GNP as the sole guide for development, and as the prerequisite for solving the unemployment, pollution problems, for raising the standard of living, and for attaining social justice. It will involve more planning of production in line with ethical goals, while at the same time maintaining a market economy depending primarily on private ownership of the means of production. The consequences of such proposed economic change must be studied carefully to avoid negative effects in terms of social and international justice. It has also to be determined whether it is possible to introduce into a market system the necessary mechanisms for planning production in line with these ethical goals.

However even in a market economy, there are, it seems, possibilities for controlling production, by increased taxes on energy and luxury consumption, by progressive taxation in the interests of justice, by economic stimulation of the production of necessities, and by laws against certain types of advertising.

The primary goal for development, however, is that every person participate fully in the decision-making processes in society, if possible in smaller communities through more direct democracy. Such political and economic participation is also a prerequisite for fixing ethical goals for patterns of production and consumption.

B. Second View – Facing the Obstacles in Restructuring the Affluent Societies

In view of the need of change and the increasing concern for the production and the use of wealth, it is important not to caricature the affluent nations. While it is self-evident that their people have been imbued with the ideology of acquisitiveness and greed (which is largely unconscious rather than deliberate) under the pressures of the social mores and of powerful institutions such as the advertising industry (which has persuaded people to buy goods and services they did not really need), we should also remember the following characteristics:

- The quality of life for the majority of their inhabitants has been heightened by the application of technology and managerial and organizational sciences;
- this quality of life is reflected in an opportunity for millions of men and women to share a cultural and a spiritual heritage, and to spend much of their time in such pursuits rather than in the search for material wealth;
- in spite of continuing elements of social injustice arising from class and other divisions in society, the economic and social development of affluent countries has enabled a not insignificant part of the world's poor to share also in the benefits of the modern technological achievements.

There is evidence that these characteristics have pervaded large parts of the world, and that today nations with a total population of over 1,000 million constitute the affluent world. There is no reason inherent in the world's economic systems why this process should not ultimately extend to the whole human family – as a result of changed international relationships and of reformed national systems. However, this optimism must now be tempered by an appreciation of the constraining effects of the food supply problem, the population explosion and the voracity of technologically-based development for inputs of energy and raw materials – not to mention the world's political problems and the propensity of nations to use their resources for military purposes.

In order to reduce this uncertainty about the continuity of development in the world economy (which is the same as saying, the continued realization of social justice in developing parts of the world), it becomes necessary to ask **if** and **how** the already affluent nations can be restructured – economically and socially – to modify their demands on world resources: to recognize the need for the sharing of power, and to take other appropriate action to promote the accelerated realization of justice for the majority of the world's people.

Such a restructuring of the affluent economies cannot and must not be viewed either as a simple or a modest task. The implications of such changes are revolutionary in their import – in three respects:

- Because a diminution of demand for resources will at least in the short to medium term, have serious results for Third World nations, which depend on the export of commodities to the rich nations. Not only would the quantity of required commodities fall, but it is likely that the price of the remaining quantity in demand would also fall – perhaps catastrophically – given a continuing traditional market organization. This aspect of the situation obviously requires serious study and agreement on steps that would be needed to compensate for the adverse effects.
- Because they undermine the bases on which the rich economies and societies have been organized, producing an unprecedented and largely unstudied situation: one in which not only are there no ready-made answers to the problems but we hardly know what range of questions and problems would arise. Such questions and problems would certainly **include** the following, though they are certainly not the only relevant issues which would have to be examined:
  - (i) Does existing economic theory and practice provide a basis for the analysis of a deliberately non-optimizing approach to the use of the factors of production? If it is not adequate, what is to be the theoretical and applied basis for the new system?
  - (ii) Can the market economy be used to allocate resources according to the criteria of a changed system in which, for example, advertising might have to be abolished and instead people persuaded **not** to consume – both in general terms and in terms of specific goods and services?
  - (iii) Reduced inputs of energy and raw materials imply the elimination or reduction of important economic sectors – including leading sector industries such as the automotive industry. What does this mean for the maintenance of justice in affluent countries in which some sections of the populations will be more adversely affected than the average?
  - (iv) A reduction in consumption implies changes in the life-styles to which people have become accustomed. How are such changes in life-styles achieved? What do the changes imply in terms of societal infrastructure, social structure, educational systems, etc.?
- Because they evolve from a **voluntary** withdrawal of peoples from the dominant and advantaged role they have achieved in world society. There do not appear to have been any previous civilizations which have voluntarily abdicated their status. The implications of this are twofold:
  - (i) Volunteers have to be persuaded – they cannot by definition be coerced. Any possibility of the ideas being accepted will require a concerted, organized campaign and a large and sustained effort.
  - (ii) Hostility of the Third World and the rejection of the existing world economic and social system could very well lead the affluent world to "dig in". It is not inconceivable that the rich nations could organize themselves for survival for decades to come – within the framework of a continuing system which would mean very little change for the great majority of their inhabitants and within the framework of an available resource base which is undoubtedly capable of sustaining the existing affluent world for generations.

How could this strategy of retrenchment, which is inherently un-Christian, because it is uncaring and selfish, be countered by Christian communities in the affluent world? These Christians will have to "evangelize" their fellow citizens and to advocate a kind of life-style in line with the fundamental change their countries' economies and societies need to undergo. There is no doubt that their task will be a hard one and need the understanding, the love and the prayers of their fellow Christians elsewhere in the world.

VI. ECONOMIC STRUCTURES FOR INTERNATIONAL SOCIAL JUSTICE

The new structures needed have been presented in summary form in the general goals advanced by the 77 developing countries in UNCTAD, and during the Special Session of the Sixth General Assembly of the United Nations (April 1974).

It is evident that new structures for international social justice must aim at increasing the economic power of the developing nations, both absolutely and proportionately in the world power equation. This requires a world economic system which will reduce the dominance of the highly industrialized blocs and tend towards a "balance of economic power" among the several regions and national groupings of the world.

To achieve this, a qualitative change has to take place in the rich nations, involving an examination of their previous assumptions about world development and their predominant role in it. In addition the development of a new political will is of the utmost importance. Without this a new strategy and the new institutions will never be realized. At the moment, the educated élite, the owners of capital and the governments of affluent nations are not prepared to accept such a strategy and to convince their people of its necessity. What is required is a process that will demonstrate to all social strata that the world is one, that all peoples have a common interest and that humanity will only be able to survive if it lives according to the responsibilities deriving from this interdependence. A new political will is of the utmost importance.

In setting the goals of the proposed new structures of international organization the developing nations will have to present their own priorities and the means that they deem appropriate to reach them.

All aspects of our present international economic structures must be reviewed and transformed including:

- the terms on which primary commodities are secured (prices, quotas, tariffs, etc.);
- access to rich world markets for semi-manufactured and manufactured goods;
- terms on which manufactured goods are exported by rich countries to developing countries;
- provision for stockpiling in order to create world reserves (especially of food);
- the possibilities and the problems of the organization of boycotts and price fixing by commodity exporting countries;
- the methods of planning and realizing investment and capital formation through private and public action;
- the role of multi-national business and non-governmental finance corporations, and of comparable bodies in socialist economies, in "weak" economic situations and the numerous moral problems this poses where there is no effective control on their power;
- the pattern of scientific and technological transfer and the possibilities of developing new international sharing of knowledge

and experience, with proper international control of dangerous technology;
- monetary reform which reflects the economic interests of all countries;
- the place of integration and its use in promoting economic justice for groups of countries;
- the possibility of a world taxation system to promote distributive justice between rich and poor nations;
- the transnational control of the seas and polar areas;
- the transnational control of the terrestrial atmosphere and space.

RECOMMENDATIONS

- *We recommend that the WCC urge churches to work together with other organizations to create a climate of opinion in line with the principles promulgated in the "Declaration on the Establishment of a New International Economic Order" passed by the Special Session of the Sixth General Assembly of the United Nations.*
- *We recommend that the World Council of Churches bring together from the affluent world a numerous and competent group of people who care for the larger human future and for the extension of social justice to all peoples, to examine the patterns of political, economic and technological power which their countries exercise over other countries and to organize a concerted campaign for the* **voluntary** *withdrawal of their peoples from the dominant and advantaged role they have achieved in world society. It would involve:*

1. *Study of the food and fuel emergencies and how the political power and social and economic life styles of the rich countries influence their solution.*
2. *Examination of the long-term patterns of resource distribution and the ways in which these patterns could be altered to the benefit of the poorer countries.*
3. *Study of the economic and political consequences of the withdrawal from dominance by the rich countries in order that possible unfavourable short-run consequences may be avoided.*
4. *Outlining elements of a social and education campaign on the part of Christians and others for the measures and the new life styles which this devolution of power would require. (This will include a campaign for change of consumption patterns in industrialized countries, based on careful exploration of what such change would mean for members of affluent economies and societies and how it can be implemented in economic and technical terms.)*
5. *Proposals for legislation by governments of industrialized countries against certain types of advertisements, certain wasteful uses of energy, pollution and destructive types of chemicals; and the fixing of higher taxes on various types of luxury consumption.*
6. *Support for research in and experiments with new socially responsible patterns of technological and scientific development and their effect on the realization of human potentialities.*
7. *Support by governments, churches and universities of experimental communities which seek to develop new types of production patterns, intermediate technology, participation and decentralization.*
8. *Action by local congregations to build awareness within their communities of the effects of the over-consumptive society.*

Part Six
THE THEOLOGICAL UNDERSTANDING OF HUMANITY AND NATURE IN A TECHNOLOGICAL ERA

One of the concerns of the Conference was to consider how the particular burdens and opportunities of our time drive us to reconsider some of the affirmations of our Christian faith.

We concentrated on two topics: the Christian hope as it bears on the prospects of humanity, and the Christian doctrine of creation and human attitudes towards nature.

I. THE CHRISTIAN HOPE AND THE PROSPECTS FOR HUMANITY

A. The Promise

As Christians we share the promise of hope for the future with the people of God of all ages. This hope remains whatever our present situation and whatever the apparent prospects for our future. It is grounded in the presence of God in Jesus Christ and in the Spirit.

The promise to which our hope is attached is not for a kingdom "of this world" in the sense of an affluent, secure and contented life; we are not promised that we shall be given all that we want. On the contrary, the Gospel challenges our "natural" hopes for well-being and rearranges them into a new form, a form which is both more realistic and more lasting. Nor is there an immutable content to our hopes. This will change as Christian experience, knowledge and understanding change; but the object and ground of our hopes, and their certainty, remain unaltered.

There are two aspects to Christian hope for the future: (1) The hope for this life and for history: the hope that that "relative death" which because of sin, characterizes all human creation and action in history, will be overcome. We look for a new day in time, a new world in which human life and community will find a more complete realization. (2) There is hope for life beyond time and history in God, for a victory over the "ultimate death" that awaits us all and possibly our world. These two aspects are in fact **one** hope, two moments of one hope. They cannot be separated since the transcendent hope is the ground for the proximate historical hope. When our life and our expectations are grounded in the cross and the resurrection, the darkness of the future is dispelled and hope is possible; and if our lives are surrendered to what is beyond the promise of affluence and security then new life and the prospect of a new society is possible. Hope for the future is a gift of grace, and the struggles for the new future a result of a faith that transcends all historical prospects. Our concern here is with the Christian hope for the historical future in the light of technology and science, not forgetting that such "temporal" hope is grounded in the transcendent.

B. Impediments to the Promise

The agonizing reality of poverty, exploitation and oppression, however, and the threat to the very survival of humanity overshadow all prospects for the immediate future. This future seems utterly devoid of promise, in fact one filled with great suffering and terror, a future marked with death. What has been most obviously creative in human history, the rational power and technical mastery, the ability intelligently to analyze and to organize experience and to shape and transform the reality which is encountered has strangely become demonic, threatening not only humanity itself but the natural world on which human beings depend and in which they participate as creatures. This is the fault neither of science nor of technology but of humanity itself which begot and has misused them; like human reason, emotion and will, science and technology can become demonic in the hands of people, and like all human powers they must be transformed not rejected or suppressed.

The impediments to our Christian hopes for the future have been described in earlier sections of the report and are listed here briefly.

1. The immediate food crisis and the threat of widespread starvation, highlighting the extravagance of the affluent nations, and the danger of further population increase.
2. The using up of the world's resources which will result in a general lowering of standards of living, with resultant suffering and social conflict.
3. The unequal distribution of economic and political power within societies and between societies.
4. The development of regimenting forms of authority to cope with the ecological crisis through control of all technology, and to cope with the resultant social crisis.
5. The personal emptiness, loss of inwardness and loneliness of a technological culture, oriented to material growth; and the corresponding loss of community, symbols, and meanings in developing societies.
6. The total loss of a sense of control of human destiny; the sense of being fated, of being unable to act and so being bound for destruction.
7. The tendency of technology in the hand of concupiscent men and women to become a total process, perpetuating and spreading itself to all corners of life.
8. The crisis of faith, associated with the rise of a self-sufficient scientific and technological culture.

C. Hope for the New Life

What is there in the Gospel, and in the present Christian experience of the Spirit in Word, sacrament and life in the world, that establishes the hope despite the present situation of despair?

1. We know that the temporal processes in which we live, the processes of nature and of social history alike, are the creations of God. History, as it arises out of, depends upon and also shapes nature, is ultimately purposive, grounded in God and under his sovereign care. There can be no ultimate meaninglessness in history, no determination by inexorable forces to destruction, despite our error and sin. Nor can we despair about the destiny of the life

which God has given us. This confidence in the creative and directing power of God is based both (a) on our recreation in Jesus Christ in which finitude, contingency, historical being and human creativity were assumed by God and redeemed, revealing the purpose of God's originating and directing creativity; and (b) in our Christian experiences of the goodness and value of material, communal and historical life.

2. Because of our confidence in the providence of God, we know that despite our continuing freedom to defy God's will, history remains open, with ever new possibilities in every situation for creative transformation. For through his providence God presents to us new possibilities even in the most desperate situations, though we may recognize that one of the conditions for creative action lies in our willingness to understand, to face and so to reshape the forces at work for destruction in our world. The providence in which we believe does not so much close off the possibility of the creative new as keep such possibilities open; God opens us to the new future by presenting us with new possibilities that can reshape our present. This communication of possibility to our freedom is universal, the work of God in all humanity and in all cultures. It far transcends, therefore, the life and the work of the churches and thus gives us hope even when we realize how ineffective our own work may be.

3. The incarnation represents the entrance of God in a new way into historical existence in order to conquer death in both its forms, to bring about a new quality of life and of history. Further, the cross represents the participation of God in the most radical suffering and estrangement of human life, and the resurrection the victory out of that suffering. Thus are the suffering and death evident in history overcome in Jesus Christ, and the basis for our hope for a new life is grounded. In Jesus Christ the power of God moved through finitude, estrangement and death to resurrection and newness of life. Herein lies our confidence that whatever the objective negative character of our present and our future, hope for the new remains. This confidence also finds its ground in the continual admonition of Jesus not to despair or be anxious – for he is with us and has overcome the world. These redemptive forces centered in Christ and receiving their criterion there are also universal; grace extends far beyond the Church though the gift and the responsibility centre in her. Again our confidence in social process lies in God and his universal work, and not wholly in the success of our fragmentary works.

4. We look, therefore, for a new life and new age in the future; in ourselves as new creatures, in society as the New Jerusalem, and in history as the promised Kingdom. These future possibilities, structured for us by these central symbols of promise, are, we know, never totally or perfectly fulfilled. Finitude and freedom remain, and sin continues to distort both. Thus does the divine future appear as judgement as well as promise, as undoing and tearing down as well as recreation. But the promise based on incarnation, creation and providence holds fast; the future is a realm of hope and not of despair for those who know God. It is towards this eschatological goal that the creative and "luring" work of God is directed: the promise of the Gospel for a new day defines and names for us the hidden work of God in the world. It is this promise which justifies the spirit of celebration in the midst of struggle of many liberation groups. The new age promises hope for freedom from the oppressions of the old.

D. The Strategy of Hope

How is this promise of meaning in historical life, of a new reality of human existence, of a new day in the future, to be understood in relation to the impediments outlined above? It is evident that there must be change if the growing threats to human survival are to be countered. But many people fear change either because of their stake in the present or the uncertainties of the future. For others change is their only hope. Without pretending to know how God works in objective history through providence, or in ourselves through grace, some answers of the Gospel to these problems can be suggested.

1. The Christian confidence in the creative sovereignty of God over history – the final ground of our hopes – means that the ambiguous future, with all its manifold uncertainties, can be faced with serenity and courage. Because of our faith in providence, we have a confidence in the new that is to come. On this basis alone can the terrors of facing the truth be borne, can new possibilities be creatively explored, and can risks to present securities be undertaken.

2. In the Christian experience of the oneness of God's creation of the wonder and value of each of its parts, is latent the possibility of a new care for the earth and its creatures. This will involve new attitudes towards our environment, new respect for its integrity and unity of interrelations, and new uses of our technological power to reshape it – as well as a new prudence with regard to our own capacity to manipulate it.

3. In the oneness of humanity implicit in God's creation and redemption of us all, lies a new understanding of the community between nations and peoples. What happens to one happens to all – thus does present history reinforce the lesson of the Gospel, and thus does the Gospel in turn give grounds for dealing creatively with present history. In this new understanding of the community of humanity heightened by a growing comprehension of mutual obligation lies the hope for a redistribution of resources.

4. The sense of obligation to one another is the Christian ground for the reshaping of political and social institutions, and for preventing either the aim of private well-being or the need for highly centralized political control from destroying human life. History will enact that reshaping in any case, for the judgement of God is sure – but if such reshaping is qualified by obligation and a sense of community, necessary political change can shed much of its destructive cruelty and its self-righteous pride and so avoid the endless repetition of oppression and injustice.

5. The renewed sense of a Christian quality of life, of the call to perfection in a new form: a perfection of depth, creativity, and simplicity as well as of compassion and community, can enable men and women to accept restricted material well-being and so be open to those new obligations to others that will be the continual requirement in a world of scarcity. Only if the power of concupiscence is broken can the conflicts latent in scarcity be overcome and the further destruction of the environment be prevented: Christian quality of life is a ground for hope in a world of dwindling supplies.

6. The Christian sense of individuality within community, of freedom within obligation, makes possible creative life within a technologized and systematized society without loss of personal being in an empty collectivity – and yet without that personal depth being based on private well-being.

7. The renewed sense of ultimate confidence in God and in his promise of transformed life can encourage the sense that our being here is a pilgrimage not a vacation; that adversity is no threat if one knows a transcendent meaning. New life arises only if men and women are willing to accept the cross as the foundation of the life. A new and better world can arise out of the crises of the present only if we are not too much concerned with our personal well

being here. To seek to gain the world in goods and in power is, as the facts now show us, to die; to be willing to die to the world in that sense is the sole condition for being able creatively to live.

Our hope for the future is neither in the achievement of material abundance nor in the creation of a perfect society. Sin and injustice will remain in history, and so freedom and human creativity will continue to be ambiguous. Our hope lies first in God's providence at work in the social world around us; and further, that through our freedom, grace may remake both us and our world: that a new style of life will be gained, that new social structures will appear, that technology will be used and not misused, nature respected and loved, and real community will appear. Though this be a world of less affluance and possibly less freedom for those who are now privileged, it will still be a better world for more people and qualitatively closer to the promised Kingdom. This Kingdom is in its quality not at all a kingdom of this world; nevertheless as a historical order of fuller human realization for all, it is the legitimate object of a Christian worldly hope for the future.

II. THE ECOLOGICAL CRISIS AND A THEOLOGY OF CREATION

A. New Challenges for a Theology of Creation

The ecological crisis, the relation of world resources to social justice and the threat to human existence – all these warnings challenge us as Christians to rethink what we mean when we confess that the universe is God's creation. We are passing from an attitude of power, of mastery over creation, to one where we need to participate in it, live within its midst, hold it in respect.

In the past, the Christian faith has had difficulty in its dialogue with science partly because we have been in danger of misunderstanding the biblical stories of creation. We were trying to use them as an explanation of the temporal origins of creation, rather than to discern in them the affirmation that everything comes from God and therefore see them as descriptions of the threefold divine relationship of people, nature and God.

Faith should not attempt to explain the processes of the world in place of science. Science should not attempt to express the values of the world in place of faith. Science provides us with facts, data, insights into physical reality and social relations. The biblical message gives us insights into the depths of our human sin, and the possibility for our repentance and hope. It tells us about our relationship with God and neighbour and calls us to love and social justice.

This Conference has emphasized the need for a partnership rather than an opposition between science and faith. But many scientists and theologians still feel a contradiction between them. The ecological crisis provides some common starting points. Mass starvation, scarcity of resources, the deterioration of the social and physical environment – these threaten the existence of life itself, and require a common effort to struggle for its preservation. This means it is as important to listen to what science is saying about threats to the future of humankind as it is to rethink and respond in terms of a perspective of Christian values.

We are not in a time of an optimistic celebration of nature, even if there is an illusory nostalgia for an originally good nature before its pollution by science, by technology, and by humanity itself! The dream of the lost integrity of nature is a by-product of our deceptive civilization. We do not wish to enter into such a dream. But truly the main danger today is other. We are much more in a time of doubt about the ability of humankind to put our powerful knowledge to wise use. This is exactly why we feel so strongly the need of confessing a theology of creation, in a time burdened by longing for that which is past and full of anxiety about the future. A theology of creation is not celebration of the goodness and integrity of nature forgetting human sin, the divisions within humanity, between humankind and earth, between nation and nation, and the tragic evolution from Eden to Babel. On the contrary, a theology of creation is a protest against all these distortions, a protest under the sign not of nostalgia but of promise.

B. The Mystery of the Trinity and the Reality of Creation

Christians believe in God as the Creator and find in the mystery of the divine trinity new insights into the reality of creation. The trinity as an archetype, a model, may stimulate a new examination of the relationship between human solidarity, creation and the glorification of God. Trinity means communion, participation in one and the same life. Trinity also means diversity, distinction, not, however, separation.

Confessing the diversity of the persons of the trinity enables us to make also distinctions in the world and yet to maintain its unity:

- In the creation of the world, **God** has given it meaning and purpose; it is neither accident nor fate.
- Not on the basis of wordly power and authority, but through his divine and diligent service, **Jesus Christ,** the suffering servant, has redeemed the world and proclaimed the glory of God. In the light of his total reconciliation all things become new, and we can participate in the constant renewal of all creation through our imaginative stewardship in shaping the world.
- The **Holy Spirit,** manifest in the community of the faithful, is present in the world to heal and to renew all things.

The trinity is a model of justice, which demonstrates the diversity and equality of the three persons. The human community is called to act on the analogy of this trinitarian life and thus to realize justice, acknowledging the diversity and equality of all people.

Today we are experiencing the vulnerability of the basic elements, such as air, earth, fire, and water. Though they are constitutive for our common life, humanity has the power to manipulate and to misuse them. Our human microcosmos exists in correlation with the macrocosmos of the universe. Though there is certainly a danger of returning to a false cult of these cosmic elements, it might be helpful to point to a sacramental understanding of creation. It does not mean that the world is sacred or divine in itself, it rather describes the elements of the world as signs, chosen by God to exemplify the goodness of his creation. They become symbols of his affection for the world, sacraments of his presence and his coming. They are God's gift to humanity, breaking the concupiscence of the human heart and opening up new values, new insights, and new attitudes towards the created world. Jesus Christ used basic elements of life to heal and to nourish humanity. The Holy Spirit sanctifies these elements – water, air, bread and wine – making them to signs of God's actual presence and activity in the midst of the creation.

C. The Human and Non-Human in Creation

Humans are the responsive partners of God. There is both a continuity of humanity with non-human creation and a discontinuity. Even on a biological level there is evidence of genetic ma-

terial common to micro-organisms, to animals and people. Biological experience and biblical experience are both against the intellectual arrogance, dualism and aloofness of humanity over against nature.

Yet the uniqueness of humans is that we are made in the image of God. We are made in that image, and we also must become that likeness. The image of God has been obscured by sin. But the call of the image to every person remains powerful and certain. It is not a static, but a dynamic image.

We are responsive **to** God because we are made in God's image, and responsible **before** God because we must become God's likeness. We are called by God to participate in a continuing creation and we are given power by God as long as we keep faithful to the intention of creation. The goodness of nature is at our disposal only as long as we are acting for God. Fear and exploitation destroy the relationship between human and non-human nature.

We must remember that in the image of God we are not only individual human persons but we are also a corporate body, a corporate expression. We cannot attain the ultimate fulfilment without the expression of this body in the midst of our partnership with creation. As a corporate body we have an ultimate, eschatological vision. Eschatology is not passive, it is not resignation. It is the very pulse, the motivating action. This ultimate vision is against both illusory idealism and passive resignation.

D. Ethical and Spiritual Consequences

To confess the world, nature as creation, is to recognize both our good limitations and our responsibilities. Humanity may be in danger of overemphasizing its domination in a ceaseless exploitation and manipulation, as if through science and technology we are the pretentious creators of a new and better world. Humanity may also be in danger of overemphasizing the threats which are over our future. The confession of creation can help to avoid both this arrogance and this frustration. To be created is to be delivered from self-salvation as well as from despair, to discover that we live by a combination of receiving from nature and acting in history. Creation means an active receptivity and a humble activity.

To confess the whole world as creation, is to recognize the solidarity of humankind with all beings. Jesus says that the animals and the vegetation and the cosmos can become parables for human beings, parables of providence and fecundity (Matthew 6:25-34). Saint Paul says also that the whole creation is waiting for its own deliverance (Romans 8). To confess the world and nature as creation is to understand the decisions that are needed to be taken by peoples and nations today. We can destroy the creation as benediction and transform it into chaos, if we fail in our human and cosmic solidarity.

The world of God's creation is put into our hands. In Jesus Christ, his cross and his resurrection, is our hope for meeting our responsibilities for this renewal of creation.

* * *

E. RECOMMENDATIONS

1. WCC Study of Theological Implications of the Sustainable Society

- *We recommend that the WCC sponsor a study, over a period of perhaps five years, of the theological implications of "a sustainable and just society", giving attention to human stewardship over the world's resources, social justice within and among the world's societies, and the theological meaning of these issues in the present world-historical situation.*

2. Ecumenical Dialogue Between Theology and Science

- *Because of the ecological crisis and its destructive effects on social justice throughout the world, science and technology as well as theology are challenged to proceed with self-examination, to find new approaches. Science-based technology has been the instrument of this crisis, endangering life without knowing whether it has the means for countering future threats.* **Science** *has developed into an instrument of domination for the exploitation of nature and the mobilization of human resources.* **Theology,** *in pursuing the doctrine of* **dominium terrae,** *has opened the door to thoughtless exploitation and destruction.*

  We therefore recommend that the various Units of the WCC, including the Sub-Unit on Church and Society, the Theological Education Fund, Faith and Order and the Programme Unit on Education and Renewal continue the work begun after Uppsala and undertake a further study-programme on "rethinking theology" in view of the crisis of science and theology. This will involve a creative dialogue between theologians, scientists and philosophers of science, focusing in particular on:

  (a) The world-view projected by modern science and technology, the assumptions and attitudes underlying and fundamental to it, and the extent to which theological and ideological factors have influenced it.

  (b) The attempts to overcome the rupture between nature and history as conceptualized in philosophical and theological thought.

  (c) The extent to which the alienation of the self from other and from the rest of creation arises from the objectifying and manipulatory tendencies in modern science and technology.

  (d) A re-examination of the scientific quest for truth in the light of the social, cultural, political conditions which provide the framework for the orientation of scientific work.

  (e) The theological search for a comprehensive concept which overcomes the fragmenting theologizing in relation to God, creation, humanity and the Church.

3. Implications for Theological Education

- *In order to make clear the practical importance and the theological implication of these questions we further recommend that the WCC urge its member churches to put a major emphasis on them in the curricula of theological education at all levels including basic education of theological students, continuing education of pastors, church workers and congregations.*

Appendix I

CONFERENCE PROGRAMME

Monday, June 24	18.30	Opening Service in the Cathedral of the Romanian Orthodox Patriarchate. Welcome of Participants by Metropolitan Justin of Moldavia on behalf of His Beatitude, Patriarch Justinian. Response by Prof. S.L. Parmar (India)
Tuesday, June 25	9.00	Biblical Meditation: "Creation and the Standing of Humanity", Fr. Paul Verghese
	9.30 – 10.45	Opening Plenary Session: Roll Call, Introduction. Brief Report from Officers and Staff on the Five-Year Study Programme. Explanation of Agenda of Working Groups.
	11.15 – 12.45	Plenary Session: "Technology and the Future of Compassion", Paper by Prof. Lynn White, Jr. (U.S.A.) "Cultural Values and the Future of Technology", Paper by Prof. E. Mveng (Cameroon) Comments by Bishop Albert Klein (Romania) Prof. Philip Shen (Hong Kong) Prof. Langdon Gilkey (U.S.A.)
	17.00 – 19.00	First Meeting of Working Groups on Sub-Themes: I – The Significance for the Future of Pressures of Technology and Population on Environment and of Natural Limits to Growth II – Meaning of Quality of Life and the Human Implications of Further Technological and Related Sociological Change (inc. Sub-Group on Human Settlements) III – Development and World Social Justice: The Search for Alternative Models, Ideologies and Utopias IV – The Theological Understanding of Man and Non-Human Nature in a Technological Era
	20.00	"Technological Development and the Future of Man in a Socialist Society", Dr. Mircea Malitza, Minister and Counsellor of the President of the Socialist Republic of Romania. Chairman of the Session: Metropolitan Justin of Moldavia
Wednesday, June 26	9.00 – 9.30	Orthodox Worship in the St. Ekaterina Church (Chapel of the Orthodox Theological Institute)
	9.45 – 10.45	Plenary Session: "Ethical Guidelines and Social Options After the Limits to Growth Debate", Introduced by Prof. Kenneth Boulding (U.S.A.), Prof. S.L. Parmar and Prof. Georg Borgstrom (Sweden/U.S.A.)
	11.15	Plenary Discussion of Preceding Papers
	12.30	Report on "Recent Developments in the U.N. Environment Programme" by Mr. Peter Thatcher, U.N. Environment Programme, Liaison Office, Geneva
	17.00 – 19.00	Meeting of Working Groups
	20.00	Plenary Session: "Human Prospects in Societies Shaped by Science-Based Technology" Panel Discussion: Dr. Magnus Pyke (U.K.) Dr. Margaret Mead (U.S.A.) Dr. Warwick E. Kerr (Brazil)

Thursday, June 27	9.00 – 9.30	Biblical Meditation: "Faith and Society", Fr. Paul Verghese
	9.30	Plenary Session: "The Power of Science and Technology – and International Distributive Justice" Presented by Prof. Amilcar Herrera (Argentina) Prof. Peter Odell (U.K.) Prof. Nathan Shamuyarira (Tanzania)
	11.15	Plenary Session – Discussion of Morning Papers
	15.00	Tour of Bucharest and Visit to Village Museum
Friday, June 28	9.00 – 9.30	Orthodox Worship (St. Ekaterina Church)
	9.30	Plenary Session – to continue debate on "Power of Science and Technology and International Distributive Justice"
	11.15 – 12.45	Meeting of Working Groups
	17.00 – 19.00	Meeting of Working Groups
	20.00 – 21.45	Plenary Session: "Helping Science and Technology Serve Human Goals – Some Case Studies Based on Local or Regional Action Projects". Dr. John Francis (Scotland) Prof Jun Ui (Japan) Dr. Altan Unver (Turkey)
Saturday, June 29	9.00 – 9.30	Biblical Meditation: "The Nature of the Good, and the Quality of Life", Fr. Paul Verghese
	All day	Working Groups
	20.00	Reception and Banquet given by His Beatitude, Patriarch Justinian of Romania, at the Theologica Institute. Response by Dr. W.A. Visser 't Hooft.
Sunday, June 30	All day	Excursion to Curtea de Arges, Visit to Historic Churches, Lunch in Curtea de Arges given by th Patriarchate; Visit to Hydro-electric Station in the Carpathian Mountains; Return to Buchares with Stop in the Monastery of Ghighiu.
Monday, July 1	9.00	Worship (in Plenary) led by Propst Dr. Heino Falcke
	All day	Plenary Sessions to receive reports of Working Groups
	20.30	Closing Session – Farewell and Address by Bishop Antonie

Appendix II

LIST OF PARTICIPANTS

ANDERSON, Mrs Joan
Convenor, Committee on Ecumenical Affairs,
Presbyterian Church of New Zealand,
Auckland, New Zealand

ANTONIE, Bishop
Patriarchal Vicar, Council on Church Foreign Affairs,
Romanian Orthodox Church, Bucharest, Romania

BALASUBRAMANIAM, Miss Shyamala
Diplomat, Consul of India, Geneva, Switzerland

BARREIRO, Dr. Julio
Lawyer, Buenos Aires, Argentina, (Uruguay)

BEER, Dr. John
Associate Professor of the History of Science and Technology,
University of Delaware, Newark, U.S.A.

BESHARA, Dr. Aida
Associate Professor, Geography Department, Faculty of Women,
Ein Shams University,
Cairo, Egypt

BHAVILAI, Prof. Rawi
Professor of Physics, Chulakongkorn University
Bangkok, Thailand

BINDER, Prof. Hermann
Dean, Theological Institute, Sibiu, Romania

BIRCH, Prof. L. Charles
Head, School of Biological Sciences, University of Sydney,
Sydney, Australia

BORGSTROM, Prof. Georg
Professor of Food Science and Human Nutrition and of
Geography, Michigan State University, East Lansing, U.S.A., and
Visiting Professor of Economic Geography, University of
Göteborg, Sweden

BOULDING, Prof. Kenneth E.
Professor of Economics, University of Colorado, Institute of
Behavioral Science,
Boulder, Colorado, U.S.A.

BRIDSTON, Prof. Keith
Professor of Theology, Pacific Lutheran Seminary and Graduate
Theological Union, Berkeley, Calif., U.S.A.

BRØNDUM, Rev. Jens
Pastor, Lyngby, Denmark

BRUN, Pastor Miguel A.
Pastor, Strasbourg, France, (Uruguay)

BUSS, Pastor Théodore
Pastor, Le Locle, Switzerland

CASTELLS, Prof. Manuel
Director, Seminary on Urban Sociology,
Paris, France, (Spain)

CHIALDA, Prof. Mircea
Dean, Theological Institute,
Bucharest, Romania

CHULLIKAL, Mr. Anthony
Staff, Pontifical Commission Justice and Peace,
Rome, Italy, (India)

COLEMAN, Mr. John
Executive Secretary, Office of Community Developers, National
Division, Board of Global Ministries, United Methodist Church,
Teaneck, N.J., U.S.A.

DECKE, Dr. Gerd
Study Secretary, Lutheran World Federation,
Geneva, Switzerland, (F.R.G.)

DERR, Prof. Thomas S.
Professor of Religion, Smith College,
Northampton, Mass, U.S.A.

DUMAS, Prof. André
Professor of Theology and Social Ethics, Protestant Theological
Faculty,
Paris, France

EMMANUEL, Dr. Artemis
Professor of Sociology, The Graduate School of Industrial
Studies,
Athens, Greece

FALCKE, Dr. Heino
Propst, Erfurt, German Democratic Republic

FARICY, Fr. Robert, S.J.
Professor of Systematic Theology, Pontificia Università
Gregoriana, Rome, Italy (U.S.A.)

FEIL, Prof. Dirk
Professor in Chemical Physics, Technological University,
Twente, Netherlands

FRANCIS, Dr. John M.
Nuclear Physicist, Director, Church of Scotland Project on
Society, Religion and Technology,
Edinburgh, Great Britain

FREER, Rev. Gordon
Associate Secretary, Division of Mission in Canada, United
Church of Canada,
Toronto, Ontario, Canada

FUNG, Mr. Wai-Man
Director, Urban Industrial Mission, Hong Kong Christian
Council, Kowloon, Hong Kong

FURUYA, Prof. Keiichi
Associate Professor of Applied Chemistry, Science University of
Tokyo, Tokyo, Japan

GANDER, Mme Claudine
Technical-Scientific Assistant, Aegerten, Switzerland

GARBUTT, Mr. John
Liaison Staff between the WCC and the "Study of the Year 2000", organized by the Free University of Amsterdam, Netherlands, (Australia)

GILKEY, Prof. Langdon
Professor of Theology, Divinity School, University of Chicago, Chicago, Ill., U.S.A.

GO, Dr. Ban Hong
Professor of Agronomy, Bogor Agricultural University, Bogor, Indonesia

GREMILLION, Msgr Joseph
Co-Chairman of SODEPAX, Department of Theology, Notre Dame University, Notre Dame, Indiana, U.S.A.

GRENHOLM, Dr. Carl-Henric
Pastor, Stockholm, Sweden

HAMBRAEUS, Mrs Birgitta
Member of Parliament, Orsa, Sweden

HARDOY, Dr. Jorge E.
Researcher, Urban Studies, Buenos Aires, Argentina

HAUGE, Prof. Jens Gabriel
Biologist, Oslo, Norway

HERRERA, Prof. Amilcar O.
Economist, Director of a Study Group of the Bariloche Foundation on a Latin American world model in response to the "Limits to Growth" report of the Club of Rome, Buenos Aires, Argentina

HEYROTH, Pastor Hans-Peter
Pastor, Halle, German Democratic Republic

von HOCHMEISTER, Mr. Günter
Engineer, Bucharest, Romania

ICA, Prof. Ioan
Vice-Dean, Theological Institute, Sibiu, Romania

INOUE, Dr. Mishako
Physicist, Tokyo, Japan

IUHASZ, Prof. Dr. Stephan
Theologian, Cluj, Romania

JUSTIN, His Eminence
Metropolitan of Moldavia, Iasi, Romania

KEES, Dr. Irmgard
European Ecumenical Centre on Church and Society, Brussels, Belgium (F.R.G.)

KERR, Prof. Warwick E.
Professor of Genetics, Universidade de São Paulo, Ribeirâo Preto, S.P., Brazil

KIM, Dr. Yong Joon
Guest Professor, Department of Applied Chemistry, Waseda University, Tokyo, Japan, (Korea)

KINYANJUI, Mr. Kabiru
Research Fellow and Lecturer in Sociology, University of Nairobi, Nairobi, Kenya

KINZE, Dr. Michael
Water Engineer, Dresden, German Democratic Republic

KLEIN, Bishop Albert
Bishop of the Evangelical Church of the Augsburg Confession in Romania, Sibiu, Romania

KOBIAH, Mr. Samuel
Secretary for Industrial Mission, National Christian Council of Kenya,
Nairobi, Kenya

KUTZBACH, Dr. John E.
Professor, Department of Meteorology and Institute for Environmental Sciences, University of Wisconsin, U.S.A.

LALL, Dr. Ernest
Doctor of Medicine; Medical Superintendent of Christian Hospital, Taxila, Pakistan

LANDER, Prof. Luis
Professor, Centre for Development Studies, Central University of Venezuela, Caracas, Venezuela

de LANGE, Dr. H.M.
Director, Academic Institute for Fundamental Training in Industry, Rotterdam, Netherlands

LINDQVIST, Rev. Martti
Senior Research Assistant, Tampere, Finland

MACIN, Sr. Raúl
Pastor, Urban Industrial Mission Coordinator,
Mexico City, Mexico

McDONALD, Mr. Clarke
Deputy Secretary, Division of Mission in Canada, Department of Church and Society,
Toronto, Ontario, Canada

MEAD, Dr. Margaret
Anthropologist; President-elect, American Association for the Advancement of Science, New York, N.Y., U.S.A.

MOELLER, Msgr. Charles
Secretariat for Promoting Christian Unity,
Città del Vaticano, (Belgium)

MVENG, Dr. E., S.J.
Professor of Anthropology and African Religions, University o Yaoundé, Yaoundé, Cameroon

NAGY, Prof. Gyula
Professor of Systematic Theology (Budapest); Secretary for Theological Education at the Lutheran World Federation, Geneva, Switzerland, (Hungary)

NASHED, Dr. William N.
Counsellor and Specialist on Industrial Management, ILO, (Egyp

NOVAK, Bishop Miroslav
Patriarch of the Czechoslovak Hussite Church,
Prague, C.S.S.R.

NWOSU, Dr. Benjamin C.E.
Senior Lecturer in Physics, University of Nigeria,
Nsukka, Nigeria

OBENG, Dr. Letitia E.
Director, Institute of Aquatic Biology,
Achimota, Ghana

ODELL, Prof. Peter R.
Director, Economic Geographical Institute, Erasmus Universit Rotterdam, Netherlands, (Great Britain)

PAI, Mr. Gregory
Graduate Student in Architecture, Harvard University, Cambridge, Mass., U.S.A.

PARMAR, Prof. S.L.
Professor of Economics, Allahabad University,
Allahabad, U.P., India

PARVEY, Rev. Constance F.
Campus Pastor at M.I.T., Cambridge, Mass. U.S.A.

POPESCU, Prof. Dumitru
Vice-Dean, Theological Institute,
Bucharest, Romania

POPOVIC, Prof. Vladan
Theologian and Professor of Philosophy,
Belgrade, Yugoslavia

PRESTON, Prof. Ronald H.
Professor of Social and Pastoral Theology,
Manchester, Great Britain

PYKE, Dr. Magnus
Secretary, British Association for the Advancement of Science,
London, Great Britain

RACKOW, Frau Dr. Sabine
Chemist, Berlin, German Democratic Republic

RADU, Prof. Dumitru
Professor, Theological Institute, Bucharest, Romania

RAMALHO, Dr. Jether
Leader of Church Social Study Group, Rio de Janeiro, Brazil

RANDERS, Dr. Jørgen
Project Director, Government of Norway's Project on Forest and Society, Oslo, Norway

RANDOLPH, Miss Susan
Development Foundation of Turkey, Ankara, Turkey, (U.S.A.)

REITZ, Mr. Rüdiger
Referent für Kirchenfragen beim SPD-Parteivorstand,
Königswinter, Federal Republic of Germany

RILEY, Dr. Negail R.
Assistant General Secretary/Minority Concerns, Executive Secretary/Office of Urban Ministries,
New York, N.Y., U.S.A.

ROBY, Dr. Keith
Research School of Chemistry, Canberra, Australia

ROLLIER, Prof. Mario
Professor of Nuclear Chemistry, University of Pavia, Italy

de ROSEN, Monsieur Léon
Chairman, Agricultural and Food Industries,
Versailles, France

SHAMUYARIRA, Prof. Nathan M.
Senior Lecturer, Department of Political Science, University of Dar-es-Salaam, Dar-es-Salaam, Tanzania

SHEMILT, Dr. Leslie
Dean of Engineering and Professor of Chemical Engineering,
McMaster University, Hamilton, Ontario, Canada

SHEN, Prof. Philip
Lecturer in Philosophy and Religion, Chinese University of Hong Kong, 586,3 SODEPAX,
Shatin, N.T., Hong Kong

SHINN, Prof. Roger L.
Professor of Social Ethics, Union Theological Seminary,
New York, N.Y., U.S.A.

SHIOLOSHVILI, Metropolitan Ilya
Metropolitan of Suhumi and Abhazia,
Suhumi, Georgia, U.S.S.R.

SIMONIAN, Miss Teny
Executive Director, Ecumenical Secretariat for Youth and Students of the Middle East,
Beirut, Lebanon

SINCLAIR, Prof. Duncan
Professor of Physiology, Queen's University,
Kingston, Canada

SPAE, Fr. Joseph
General Secretary, SODEPAX
Geneva, Switzerland, (Belgium)

STANILONE, Prof. Dumitru
Professor, Theological Institute,
Bucharest, Romania

STEPKOWSKA, Dr. Eva
Civil Engineer, University of Gdansk,
Gdansk, Poland

STROHM, Prof. Dr. Theodor
Professor of Systematic Theology and Social Ethics, Kirchliche Hochschule in Berlin, Berlin (West)

TÖDT, Prof. Heinz Eduard
Professor for Social Ethics, University of Heidelberg,
Heidelberg, Federal Republic of Germany

TODORAN, Prof. Isidor
Dean, Theological Institute, Sibiu, Romania

UI, Prof. Jun
Assistant Professor, Urban Engineer, University of Tokyo,
Tokyo, Japan

UNVER, Dr. Altan Zeki
Secretary General, The Development Foundation of Turkey,
Ankara, Turkey

VANDOROS, Mr. Pan. V.
Chancellor, European Dragan Foundation, Athens, Greece

VERGHESE, Fr. Paul
Principal. Orthodox Theological Seminary,
Kottayam, Kerala, India

WAHREN, Dr. Carl
Head, Population Division, SIDA, Stockholm, Sweden

WAWOROENTOE, Ir W.J.
Director, Development Technology Institute,
Bandung, Indonesia

WEST, Prof. Charles C.
Professor of Christian Ethics, Princeton Theological Seminary,
Princeton, N.J., U.S.A.

WHITE, Prof. Lynn T., Jr.
Professor of History, University of California,
Los Angeles, Calif., U.S.A.

WILKINSON, Canon Maurice
Associate Secretary, Canadian Council of Churches,
Toronto, Ontario, Canada

ZABOLOTSKY, Prof. Nicolas
Professor of Theology and Social Ethics, Orthodox Theological Academy, Leningrad, U.S.S.R.

ZILLESSEN, Dr. Horst
Director, Sozialwissenschaftliches Institut der EKiD, Bochum, Federal Republic of Germany

Guests:

DERARU, Mr. Petre
Rédacteur principal de la revue *Era Socialista*

CHETAN, Mr. Octavian
Chef rédacteur du service de philosophie, Académie des Sciences sociale et politique

COSTEA, Prof. Stefan
Conseiller scientifique, Académie des Sciences sociale et politique

DOGARU, Prof. Dumitru
President, State Department for Religious Affairs, Bucharest

DRAGAN, Mr. Joseph-Constantin
President and Founder, European Dragan Foundation, Milan, Italy

GOLIAT, Prof. Ion
Secrétaire générale, Académie des Sciences sociale et politique

JUSTINIAN, His Beatitude
Patriarch, Romanian Orthodox Church

MALITZA, Dr. Mircea
Minister and Counsellor of the President of the Socialist Republic of Romania

NENCIU, Mr. Georghe
Vice-President, State Department for Religious Affairs, Bucharest

THATCHER, Mr. Peter S.
Director, U.N. Environment Programme, Liaison Office, Geneva, (U.S.A.)

VISSER 'T HOOFT, Dr. W.A.
Honorary President and Former General Secretary, World Council of Churches

WCC Staff:

Dr. Paul R. Abrecht (Executive Secretary), Mr. Jean-Jacques Bauswein, Prof. Ion Bria, Mr. Charles Day, Mr. Diogo de Gaspar, Miss Rosemary Green, Mrs. Margaret Noetzlin, Dr. Julio de Santa Ana, Mr. Peter Scherhans, Mr. Gordon Schultz, Miss Christa Stalschus, Mr. John Taylor, Mr. George Todd.

Other Staff:

Miss Lidia Ciszkowsky (Council on Church Foreign Affairs), Mr. Sorin Petcu (Theological Institute), Mr. Remus Rus (Council on Church Foreign Affairs)

Interpreters:

Miss Sarah GOULDING, Miss Soja GRIBKOFF, Miss Cicely HUNTER, Miss Karin LEBBE, Mr. Luiz Augusto RAMALHO, Miss Cathérine STENZL

Appendix III

WCC CENTRAL COMMITTEE ACTION ON THE CONCLUSION OF THE FIVE-YEAR ENQUIRY ON THE FUTURE OF MAN AND SOCIETY IN A WORLD OF SCIENCE-BASED TECHNOLOGY

Berlin (West) August 1974

- The Central Committee **commends** the staff and Working Committee of Church and Society for the successful completion of the five-year enquiry on the Future of Man and Society, and **receives** for information the draft report of the Conference in Bucharest, June 24 – July 2, 1974. The Committee **urges** that the report be widely circulated, studied and discussed in the churches, particularly with a view to its relevance to the Assembly. The report should also be made available to other bodies concerned with similar problems. The Reference Committee emphasized the following four concerns:

  – the continuation of the creative encounter of scientists, technologists and theologians;

  – the need to continue the theological examination of the assumptions underlying new approaches to creation;

  – the importance of discovering alternative life styles which give new expression to the role of spirituality in a society characterized predominantly by rationality;

  – the emphasis on humanizing technology where it has an alienating and destructive effect on the social life and cultural self-realization of individuals, groups, and societies in the light of the search for a new ethic of natural resources use.

- The Central Committee **notes** the plan of the staff of Church and Society as proposed at the Bucharest Conference to prepare a popular paper-back book summarizing and interpreting the results of the five-year enquiry and its consequences for ecumenical thought and action, for the use of individuals, groups and churches, especially in relation to the preparation for the Assembly discussion of these questions.

- The Central Committee **requests** the officers and staff of Church and Society to convene several very small assessment meetings prior to the Assembly to delimit and outline issues for further study which have emerged from the enquiry, for the consideration of the Assembly.

  1) "Rethinking theology" in relation to significant changes in the contemporary scientific world view, and new ecological perspectives. (In cooperation with Faith and Order and other Units and Sub-Units of the WCC).

  2) The socio-economic and ethical implications of the idea of a sustainable and just society. Immediate attention should be given to:

  a) the risks and potentialities of the expansion of nuclear power;

  b) follow-up of the WCC report on "Population Policy, Social Justice and the Quality of Life" in light of the forthcoming World Population Conference (in cooperation with CCPD and CCIA).

- The Central Committee encourages Church and Society staff in their plan to test the results of the five-year enquiry by a series of staff visits to selected regional and local situations, involving local pastors and laymen in a discussion of these questions.